

THE HIDDEN MYSTERIES OF FLOWERS: AN ANTHOLOGY

Edited by Iamlichus

2021

ABSTRACT

The anthology includes S. V. Stulginsky's short novel, *The Heaven Settles Down upon Earth in Flowers*, as well as some other works, in full or in part, on the morphology and structure of flowers and related issues: A selection on flowers from the books of the Living Ethics series; a passage from V. Kryzhanovskaya's *The Magicians* on inherent energies and healing powers of plants and flowers; a large collection of excerpts on plants and flowers from Rudolf Steiner's books and lectures; a few short chapters from Corinne Heline's *Magic Gardens: A Symbolic Rendering of Angelic Communion with Man Through the Medium of Flowers*; a short chapter on the harmony of flowers from *Consonances and Dissonances in Nature* by a modern composer Vladimir Fesenko; some information about the work of Agnes Arber, an expert in plant morphology, German musicologist Hans Kayser's *The Harmony of Plants*, and Keith Critchlow's *The Hidden Geometry of Flowers*.

1st electronic edition, 2021.

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EDITOR'S INTRODUCTION

The main purpose of this anthology is to put together a variety of literary and informational works on the flower morphology and its inner meaning.

It starts with a remarkable, but little known novel by S. V. Stulginsky (1908-1995) *The Heaven Settles Down upon Earth in Flowers*, that presents in a literary form some topics in the morphology and structure of flowers and related issues. The very title of the novel and many of its motifs are borrowed from the Teaching of Living Ethics, also known as Agni Yoga, so the anthology includes a selection of excerpts from the Living Ethics book series that form a context necessary for the correct understanding of Stulginsky's work.

Given the analogies between the morphology of living forms, art, music, fragrances, and any organized structures, it was thought appropriate to supplement Stulginsky's novel with excerpts from kindred works that in their totality cover wider subjects of number, form, color, and sound as principles guiding structure formation in physical, chemical, biological, social, and cosmic systems.

Esoteric literature throws much light on an energy background of plants and flowers. The anthology includes three esoteric works:

1. A passage on inherent energies and healing powers of certain plants from the novel *The Magicians* by V. Kryzhanovskaya (1857-1924).
2. A very valuable collection of excerpts on plants and flowers from books and lectures by Rudolf Steiner, the founder of spiritual science, biodynamic agriculture, eurythmy, new perspectives in dramatic arts, painting and architecture, Waldorf education, and a new approach to medicine (using natural remedies).
3. A few short chapters from Corinne Helene's *Magic Gardens: A Symbolic Rendering of Angelic Communion with Man Through the Medium of Flowers*.

Other works included in the anthology demonstrate attempts of scientists and creative people to rethink geometry and harmony of flowers without relying on esoterics. They show how far one can advance along these lines:

1. A short chapter on the harmony of flowers from *Consonances and Dissonances in Nature* by a modern composer Vladimir Fesenko.

2. Some information about the work of Agnes Arber (1879-1960), an expert in plant morphology and related topics in biology.
3. Excerpts from German musicologist Hans Kayser's (1891-1964) *The Harmony of Plants* (English translation, 2008). Proceeding from music, Kayser arrived at the conclusion that the principles of musical harmony underline astronomy, architecture, botany, and other sciences.
4. Some excerpts from Keith Critchlow's *The Hidden Geometry of Flowers* (2011).

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THE HEAVEN SETTLES DOWN UPON EARTH IN FLOWERS

by S. V. STULGINSKY

Editor's Foreword

Stepan Vikentievich Stulginsky (also known as Steponas Stulginskis) (1908-1995) was a Lithuanian architect, Chair of Department of Architecture at Kaunas University, a first-wave Roerichian (a member of the Roerich movement), and, in 1990s, the President of the Lithuanian Roerich Society he has helped recreate. He is known among Roerichians as the author of two popular books: *The Cosmic Legends of the East* (English translation, 2019) and *An Introduction to Agni Yoga*. For more about Stulginsky read and view here:

<http://www.rerich.lt/agni/en/society.html>

<https://www.scribd.com/book/438611292/THE-COSMIC-LEGENDS-OF-THE-EAST-The-Mysteries-of-Ancient-Manuscripts>

<https://www.youtube.com/watch?v=uQlNnzG6rLc>

The original Russian text of Stulginsky's novel *The Heaven Settles Down upon Earth in Flowers* has been first published in three consecutive issues of *Voskhod*, a journal of the Siberian Roerich Society, and is freely available on the Web with no strings attached:

I. *Voskhod*, No. 5(169), May 2008. <https://rossasia.sibro.ru/voshod/article/18683>

II. No. 6(170), June 2008. <https://rossasia.sibro.ru/voshod/article/18786>

III. No. 7(171), July 2008. <https://rossasia.sibro.ru/voshod/article/19182>

The novel consists of nine loosely related chapters that have been rearranged in this anthology in a more logical order. The Siberian publication includes color illustrations (mostly photographic pictures of various flowers); they are not part of the original novel, but have been retained in this anthology. The novel is translated from the Russian by the Editor.

The Heaven Settles Down upon Earth in Flowers

1

When I was young, I made friends with an artist who was 15 to 20 years older than me. He taught drawing at a high school. It was known that he devoted all his free time to flower growing. But only a few knew that actually most of his time has been given to painting. He painted portraits of flowers.

He never showed his paintings to anyone. So it was a sign of great trust and friendship when, after several years of our acquaintance, he offered that I take a look at his artwork. He took me to his workshop in the mansard of his house. We brought several paintings from the studio - this is how he called his atelier - and hung them. I began to look at the paintings with interest. After a while, he began to speak:

"As you can see, these paintings are not nature mortes. I tried to reveal and capture something that is real. Not how flowers appear to us, but what they really are. Therefore, I call these paintings the portraits of flowers."

I asked:

"But the conventional notion of portrait is applied to human beings only. Besides, as far as I know, a true artistic portrait has to reveal human being's character, his or her soul. I read somewhere that famous artists first studied the object for a prolonged period of time. They looked closely at his or her from all angles, under all circumstances, in all moods. And only after a careful study of human being's character, his or her soul, they proceeded with creating a portrait. But what about flowers? Even though they are alive, they have no psyche. How can one reveal a soul if it is absent?"

"You are not correct. Flowers also have a soul. A flower's soul is its beauty. Reveal this beauty, show it in its fullness, its majesty - and you will show the soul of that flower. You will create its portrait."

"So a similar process of preliminary study has also taken place in the case of flowers, hasn't it"

"Absolutely. Creation of each 'portrait' was always preceded by the unraveling of the 'character' of a flower, the revealing of the mystery of its beauty, the deciphering of its 'artistic composition.' Every flower was studied in respect to the artistic plastic of form and the harmony of colors."

"So it appears that every flower is a genuine work of art created according to all rules of composition, isn't it?"



Crocus

"Revelation of beauty is an outcome of deliberate creative composition. This is so even in Nature. Studying the beauty of each flower aims at the deciphering of the principles that guided the forces of Nature that created the flower; they are true creators of the flower. The whole purpose of this work is to wrestle away secrets of Nature's creative workshop, to disclose its creative methods. The revealing of the artistic composition of each flower required establishing mathematical relationships between its parts and between each part and the whole, finding compositional axes and dominants. In other words, understanding the whole specificity of the harmony of the given flower, all peculiarity of its character; finding, understanding and capturing its soul."

"It seems to me that creating a portrait of a flower is much more difficult than a human portrait. It is relatively easy to portray a human face in planar perspective using painting techniques. But a flower presents a much more complex composition - it is simultaneously spatial and structural. Every flower can justly be called a work of both sculpture and architecture. One can speak not only of its appearance, the 'facades' of the flower, but also of its 'interiors'! I think, it is not easy at all to convey in its entirety a flower's spatial and structural composition!"

"You are absolutely correct. A flower's 'portrait' cannot be represented in a single painting. As you can see, each flower required several art boards. Here is a flower's 'plan' - its transversal section. Here are vertical sections - 'frontal' and 'median.' And these are 'facades' of the flower - a top view, side views, and sometimes a bottom view. And finally, there are perspective portrayals - various oblique views of the flower. Taken together, they form a complete set of images that constitute a flower's portrait that reveals as fully as possible its spatial and structural composition."

I continued to carefully examine images – art boards on stretcher frames. All of them had the same dimensions. Sections were reminiscent of architectural drawings. 'Facades' and views were



Pansies

real masterly paintings. Each flower has been represented in an appropriate scale. Almost all of them were magnified - two, five or even ten times, depending on the flower's dimensions. Indeed, there are tiny flowers measuring a few millimeters, such as lobelia, reseda, and gypsophila. There are also large ones, measuring up to 30-40 cm in diameter, such as some sorts of dahlia flowers. These were represented in real size. The art boards included compositional axes and other auxiliary lines and alphanumeric notation. Formulas for proportions were indicated in the margins. The name of the flower was given in the bottom right corner.

Speaking about the difficulties of flower representation he had to overcome, the artist said:

"It is not difficult to create images of a flower having a regular composition that possesses two or more planes of symmetry that partition it into equal parts. But the sweet pea flower has one plane of symmetry only. As you can see, it is more difficult to portray it. And the canna lily flower is entirely asymmetric - it has not a single plane of symmetry. It was even more difficult to portray."

"But, as far as I can see, you coped with this task perfectly."

"That was not the main difficulty. It is relatively easy to portray a single flower such as a peony and poppy, tulip and daffodil. Their flower shoot ends with one flower. But single flowers are not so common. Most flowering plants have flowers collected in the form of an inflorescence. For example, flowers of turkish carnation are clustered in a scute. Flowers of lilac, in a broom. Lush flowers of gladiolus and orchids make up an ear. Asters and dahlias, cornflower and helenium make up the basket. And lily of the valley and leukonia, white acacia and bird cherry



Freesias

are brushes. There are many other types of inflorescences: simple and complex umbrella, cymose and cob, gyrus and bifurcation... This is where real difficulties arise."

Separate supplemental art boards showed all varieties of colors, all tints inherent in the given flower. Thus, lilac and blue-violet varieties were used for violets and scyllas, whereas red, pink and yellow, for cannas. There are many flowers with exceptionally large diversity of tints - roses and dahlias, asters and phloxes...

"Also notice that some flowers are not single-tinted. Look at bright spots, stripes and strokes, specks and fringes of dahlias and gladiolus, iris and viola, phlox and turkish carnation. Besides, some orange flowers, such as nasturtiums and marigolds, at sunset as if flare up and acquire special brightness. And colors of some varieties of dahlia become phosphorescent at late night. How can one express in paintings all these dynamics of color changes?"

To tell the truth, flowers shown in the paintings seemed to be much more beautiful than the originals! Not to mention the mastery in displaying exquisiteness and beauty of the forms of flowers, I was really enchanted by the music of wonderful colors. Never before I suspected that there may be so many hues and nuances of the same color! It was like listening to modulations of the same tone brought out by the magical voice of a famous singer! The richness of color modifications brought unspeakable pleasure. Some paintings even radiated some kind of elusive glow. Thus my first impression from inspection of the paintings remained unforgettable.

On the outskirts of a small town where the artist lived, all houses were surrounded by vegetable gardens, berry fields, and orchards. And among them, the artist's plot stood out in sharp contrast. All of it - from the quiet street at the beginning to the silent river at the end - was filled only with



Roses

flowers. No vegetables, no berry bushes, no fruit trees - just all-over flowers! From the early spring to the very late autumn there was an extravaganza of bright colors, exquisite shapes, delicate aromas! And what an amazingly wonderful harmony!

The flowers were arranged in such a way that the colors contrasted and harmonized with each other, so that they revealed and reinforced each other. While some faded, others blossomed, colors and their consonances changed, but the rainbow harmony remained inviolable. In the entire composition of the floral garden one could see the fine art of its owner.

I asked:

"Why do you have so many flowers? They are everywhere - in the rooms and on the porch, and especially in the entire outside area: there is no room left for berries, fruits and vegetables. What is the use of flowers? Only that they are beautiful?"

The artist answered:

"Flowers are the most valuable thing in nature. The value of their beauty for humanity cannot be overestimated. We will talk about this later. In the meantime, let's address the benefit that you are pushing so hard. Many flowers have healing power - they heal people's diseases. I hope you've heard of medicinal plants."

"Yes, I know that lily of the valley and hawthorn are known heart remedies. My mother treated herself for colds with linden and elderberry flowers, and for coughs she used thyme, mother-and-stepmother. Besides, I know of chamomile, arnica, marigold..."



S.N. Roerich. Rose. Ca. 1923-1931

"That's right, flowers first of all are used as remedies in the form of their extract. Yet extracts and essential oils are only the most primitive use of the healing power of flowers. Much more powerful, because more subtle, is the effect of their aroma, their color, their vital emanation. Unfortunately, these remedies are all long-forgotten."

"As for the aroma, I really love the smell of jasmine, lily of the valley... But what is value of all these and other pleasant smells? No matter how fragrant the aromas of flowers are, they still cannot compete with the perfume industry. After all, it is so much easier to visit a store and choose any fragrance you want, than to do such hard work as growing flowers."

"The essence of aromas is not in pleasantness, but in healing. The idea of incense lies in useful but forgotten knowledge. Healing with the scent of flowers dates back to ancient times. The priests pointed out how to use and when to use the aromas. A whole healing system has been worked out, based on inhalation and nourishment of the nervous system through rubbing."

"And what about now? Has all this ancient knowledge but disappeared without a trace?"

"Now the value of various aromas is completely forgotten. The production of perfume has lost its ancient meaning. And not only has it been lost, but even out of ignorance, the most harmful



Bellflowers

combinations are often used. Now they do not pay attention to the usefulness or harmfulness of various very pleasant fragrances. All flowers have a special purpose, but the so-called perfumes bear conventional flower names. No one cares about the usefulness of the perfumes, but the essences that go into them are sometimes almost poisonous. What has the ancient teaching turned into if now they offer a deadly scent! So perfumes are now just as meaningless as other defamations of values."

"Is it possible that nothing from ancient wisdom has come down to us?"

"Something remained in the East. For example, they in the East believe that roses and freesias possess the most delicate and pure aromas, and therefore the most useful ones. Rose makes a very durable, fragrant rose oil. It is also said that the rose not only gives a semblance of musk, but also prevents the poison that arises in the body from irritation. The East claims that roses contain the greatest amount of psychic energy. Therefore, the ancients considered a rose garden as a place of inspiration. Freesias are also useful to the sympathetic system, which strongly vibrates in a refined person, or, to use an Oriental term, in a yogi. - And let's talk about beauty separately."

In a few days of first acquaintance with the paintings, I managed to look through only a part of the unusual collection. I could not do it for a long time. Eyes got tired from intense gazing and receptivity diminished. And it was impossible to limit oneself to a cursory examination - the paintings required serious study: only in this way did these portraits fully reveal all the beauty of



Flower-de-luce

flowers. So it has become my habit to spend one or two weeks of my annual vacation in this remote town every summer.

The study of the collection of paintings was an unspeakable pleasure. Before me revealed was all the otherworldly beauty of the heavenly messengers, as the artist liked to call flowers. Sometimes one could be amazed how some inconspicuous modest flower, which had not attracted attention until now, suddenly revealed such a beautiful composition, such a peculiar beauty that it was just breathtaking!

After viewing a suite of paintings dedicated to some flower, all its charm was revealed to the eyes. As if from a dumb being it turned into a speaking one. Nay, more - singing in his own voice in an oratorio of all colors. After studying the portrait of a flower, the synthesis of all the elements of its beauty - composition, consonance of colors and uniqueness of aroma - was perceived as a piece of music created by the composer in a certain key, in a certain tone.

Only after an in-depth study of such suites could I consciously perceive the subtle beauty of flowers, spend hours in a floral garden as if at a concert of works by Bach or Mozart, perfectly understanding their music and enjoying it to ecstasy.

During my annual visits, delving into the subtleties of the composition, I also memorized the names of all the flowers shown in the art boards. Each board was supplied with the names of the flower - in addition to a popular name, also scientific, Latin one was provided.

Like many, I did not know the names of all flowers until now. I admired them 'blindly'. True, I distinguished a rose from a lily, a lily of the valley from a carnation. But there are hundreds of flowers! And to look at a flower not knowing its name and main characteristics (indoor or garden, annual or perennial, etc.) is the same as listening to a piece of music without knowing its author-composer, not knowing which historical era it belongs to. I asked the artist if I was thinking right.



Narcissus

"Absolutely correct. Consciously listening to the music of flowers can only be the one who knows the name of each flower in question, knows its place in the classification, its generic differences, knows its structure, the basics of its composition. To the music of the beauty of the flowers themselves added is the music of their names - both folk and scientific ones. And they are almost all beautiful."

On my last visit, when I had finished studying the collection, the artist introduced me to his other work. He explained that during the creation of the paintings, he began to see the outlines of the foundations of the flower composition - the principles of their creation. He began taking short notes. In the course of time, they grew to the size of a solid treatise. He was also able to uncover the secret of the relationship and interdependence between form and color. In such a way he discovered the laws of flower composition. It was the synthesis of all of his remarkable work. He showed me this manuscript. A thick book with an even more voluminous cardboard box of illustrations and drawings. A valuable work, in its depth and originality equal to the works of great researchers.

After finishing the book and completing the collection of paintings - portraits of many existing flowers, he tried to engage in 'amateur' creativity. Having thoroughly studied and mastered the basics of flower composition, he began to create his own 'projects' of flowers. Non-existent in Nature, but theoretically quite possible, because they were created according to all the rules of composition discovered by him... And he joked:

"Unfortunately, there is still no connection between the architect-designer and the executors-builders. It has not yet been possible to break through the still impenetrable wall separating our world from that invisible world where the creative forces of Nature work ... As you can see, all projects have remained unfinished ... But I am sure that in the future this wall will be overcome

and cooperation of man with the invisible forces of Nature will take on a completely new character!"

4

The rooms of the artist's house were filled with flowers not in the same way in terms of colors. The living room contained flowers of only warm tints: red and orange, pink and yellow. And in his private room there were flowers of only cold colors: in addition to white - blue and navy, lilac and violet. Also, the coloring of his room was unusual - it was sustained in cold colors: a white ceiling, blue walls, a navy floor; and furniture in the shades of blue. When I moved from the living room to his room, it seemed as if I was getting from a hot bath into a cold one, such was a sharp contrast between warm and cold colors. I asked him about the reasons for this difference. He replied:

"It is known that in the solar spectrum on one side of the green, neutral color there are warm colors: yellow, orange, red; on the other side - cold ones: blue, purple, violet. It is also known that green, a neutral one, predominates in nature. All other colors - both warm and cold ones - are dosed in nature. This means they are not neutral - they have a strong impact. This is the basis of color therapy, so far little known, and light therapy, which is quite widely used."

"Yes, I know. Irradiation with heat lamps, which give off red and infrared rays. Also with cold rays - ultraviolet ones."

"You can also add that cold rays are stronger, because they are chemically active. Flowers act in exactly the same way. Moreover, both warm and cold tints are healing. And the cold ones are stronger than the warm ones. Plants matched by color have greater healing power. So flowers, their shades, can be used for healing. The main effect of warm tints is activation, while cold ones are soothing."

"Now it is clear why in the living room one is imbued with a cheerful and buoyant mood, and in your personal one - calm and serious, solemn and sublime. And I have another question: Given such an amazingly rich variety of colors and tints of flowers, with the whole gamut of tones presented in them - why are there no pure black flowers, almost no green ones and very few navy blue ones? For example, of the blue ones I know only of forget-me-not."

"We have already spoke that green coloring predominates in nature. This is why there are no green flowers - they would not be noticed. But there is also a lot of the blue – just look at the sky and its reflection in water bodies. This is probably why there are so few blue flowers. After all, flowers must have contrasting colors so as not to drown in the green sea of nature and in the blue heavenly ocean. From this it follows that forget-me-nots are the most modest of all flowers! They have little desire to stand out. And they are closest to the homeland of flowers - to the heaven!"

"And why are there no black flowers?"



Tulips

"The coloring of flowers has, so to speak, some symbolic meaning. White is the color of good, the color of grace. It embodies purity, tenderness, love. Since flowers are 'messengers of the heaven', it is understandable why there are so many white, 'good' flowers. And it is understandable why white flowers are usually gifted for the wedding: roses, carnations, calla lilies. In contrast to white, black is the color of evil; it embodies malice and hatred. And if the flowers are from the heaven, then there can be no black flowers, for in the upper world there is neither evil nor hatred. Does this explanation satisfy you?"

"Completely. But I would like to return to our topic of the healing power of flowers. It seems to me that the custom of weaving wreaths and garlands and putting them on people has the same meaning."

"Yes, this custom is an expression of the ancient wisdom of peoples that preserved the knowledge of healing. Thus, one can heal by applying appropriate flowers to the body."

"And the last question. Nowhere in your house - not in the rooms, not in the porch - have I seen cut flowers. From this I conclude that you do not like plucked flowers and recognize only living ones."

"Correctly noted. It is the living emanation of flowers that is healing. As one oriental book says, 'flowers transmit their vital emanation through the fibers of the tissue of white balls that protect the citadel of health.' Therefore, where you can have fresh flowers, there is no need for any oils and no patented remedies. So the most alive and the most natural is the best. Hence the desire to see unpicked flowers."

"What plants are most healing in this sense?"

"For both physical and mental health, roses and mint are the most beneficial. They can be of great benefit as indoor plants. The emanations of their living petals and leaves are the most subtle and natural. Rose and mint are also excellent disinfectants. No wonder the rose was a symbol of mystery in alchemy."

"Now I understand why you have roses everywhere - both in the rooms and in the porch, and in the garden there is such a large rosarium."

"Yes, the rose is considered the queen of flowers. What an exquisiteness, what an exceptional richness of the forms of its flowers! What a tenderness of coloring, what a multitude of bright and delicate tints in various shades! How many subtle differences in the scent of flowers, what a subtlety of scent! And all this is combined in roses like in no other plant. It is not for nothing that for centuries the rose has been the most beloved plant of all peoples!"

At the end of the conversation, he read me a whole lecture about the vital emanation of flowers, the meaning of which was something like this:

"The plant emanation produces a strong effect on the surroundings. One may see how one can be helped by a bed of flowers consciously combined. Absurd are mixed flower beds whose mutual reactions destroy their good effect. Matched or homogeneous ones can answer the needs of our organism. How many useful combinations there are in fields covered by wild plants! Combinations of plants which are natural neighbors must be studied as instruments of an orchestra. Those scientists are right who look upon plants as subtly sensitive organisms. The next steps will be the study of the reaction of groups of plants on each other as well as upon man. The sensitivity and reciprocal action of plants upon surroundings is indeed astonishing. Plants are manifested, as it were, as a binding substance of the planet, acting on a network of imperceptible interactions. True, the value of plants was long ago foreseen, but group reciprocal actions have not been studied. Until recently people have not understood the vital capacity of vegetable organisms and have senselessly cut clusters of heterogeneous plants, not caring about the meaning of what they were doing. A man with a bouquet is like a child with fire."

5

In my conversation with the artist about the Beautiful, I did not even notice how we sat in his garden until dusk. The flowers were extinguishing - the stars were lit up. From the grayed inflorescences, our eyes rose to the shining constellations. The flowers became calm - so did we. The cheerful chamber concerto of the floral garden fell silent - the solemn symphony of the Cosmos began. For a long time we were absorbing this music of silence. Finally, the artist spoke in a low voice:

"Do you feel the impact of the greatness of the sky? Do you feel how it is incomparably stronger than earthly beauties? Do you hear the music of the spheres?"

"Yes, I somehow feel that the harmony of the universe undeniably brings spiritual harmony. But, to tell the truth, I don't hear any music of the spheres."



A.P. Veselev. Gladiolus

"Only a very subtle ear can hear this music. And you can only listen to it in the quiet of the mountains. The great Russian artist Roerich settled in the Himalayas to listen to the music of the spheres. He captured it in many wonderful paintings depicting mountains. When looking at these pictures, as well as the pictures of Čiurlionis, you feel the music."

"Why only select musical people can hear the music of the spheres? Why is this denied to us mere mortals?"

"The reason is that "mere mortals" do not develop the perception of music. They do not try to assimilate the beauty of sound - not only of the Cosmos, but even of our nature. Musicality needs to be developed. One should listen to beautiful music and singing. Without realizing the meaning of music, it is impossible to understand the sounding of nature. And of course, one then cannot think of the music of the spheres - only noise will be available to the spirit of the ignorant. The song of a waterfall, or a river, or an ocean will only seem to be a roar. The wind will not bring melody and will not ring in the forests with a solemn hymn."

"And how well the music of the forest and the music of the sea are conveyed in the symphonies of Čiurlionis! How beautifully he transposed the sounding of nature to human music!"

"As there is the music of the wind, the symphony of the forest and the sea, so there is also another sounding of nature - the music of flowers. The ones around us."

"Can I hear this music?"

"I listen every day how the flowers sing. In the morning, at sunrise, I go outside to the floral garden. The light is greeted not only by birds - flowers also sing the hymn to the light. The harmony of their colors is transformed into the harmony of sounds heard by some kind of inner ear. How beautiful this music is... Come here before sunrise - you will hear it yourself!"

"What does the music of flowers have in common with the music of the spheres?"

"But the music of flowers *is* the music of the stars, the music of the heaven. Only translated from the heavenly language into our earthly language. After all, flowers are messengers of the heaven. The cosmic legend of the East says that "the heaven settled down upon Earth in flowers". We humans believe that the heaven is too far away from us, and therefore we do not listen to its symphony, the music of the spheres, we do not admire the beauty of the heaven. And we lose a great lot. So the heaven took pity on people - a part of it descended to Earth and settled down in flowers. So that people could still enjoy the heavenly beauty, listen to the echo of the music of the spheres in flowers."

"What a wonderful legend!"

"One good writer said: "The unsurpassed beauty of flowers on Earth, from humble wildflowers to orchids and roses grown in gardens, can be viewed as a beautiful gift from heaven, awakening a sense of beauty in a person and reminding of the wonderful beauty of the higher worlds." And the great scientist, genius botanist Linnaeus put it this way: "As the stars, scattered in the highest celestial spheres, adorn the heaven, so graceful flowers, shining with a variety of colors, crown the whole of the human world." Such is the connection between the heaven and flowers! Therefore, it is said in this legend of the East: 'Love of lilies or of the far-off worlds has as its basis the same cosmic principle.'"

6

While studying the paintings, I had a question:

"How is it that all the creations of Nature appear beautiful to our eyes? How, by what measures is beauty created in Nature?"

"Pythagoras taught that the construction of the Universe occurs according to the 'number.' There is also a statement attributed to Plato: 'God geometrizes.' Translated into modern language, one could say - 'Nature geometrizes.' These statements imply that the creative forces of Nature are intelligent and that they create everything according to a plan. Each stroke of a drawing in Nature reflects the plan of the mind of Nature. This plan is evolution."

"As far as I know, modern science with its theory of evolution recognizes 'drawing in Nature', doesn't it?"



"Natural science, chemistry, astronomy and all other sciences that study the laws of Nature and the development of various forms of life, invariably testify to order, harmony and rhythm, or, in the final count, to the amazing beauty that reigns in the universe. Wherever we look at the activities of the forces of Nature, a charming geometric pattern is revealed everywhere. In the splendor of plants, in the grace of animals, in the complexity of the human body, and finally, in the greatness of the Cosmos - everywhere we see harmony and rhythm. All beauty in Nature is created on the basis of rhythm and harmony."

"This beauty is clearly expressed in living Nature, in her life. But in inanimate Nature, in stone, is it there?"

"For our eyes, the mineral is motionless and lifeless. But in this seemingly lifeless matter, the mind of Nature is also working all the time. The work of life is going on in minerals, albeit constrained and squeezed. This life builds crystals of various geometric shapes. Matter crystallizes following the laws of rhythm and beauty. With what perfection the crystals make geometric designs! The accuracy of their angles is often more perfect than can be achieved with the most accurate human-made instruments. Thus, in the mineral kingdom, the mind of Nature, thinking in 'numbers', builds forms of exemplary order, rhythm, and beauty. The world of crystals is a reflection of its geometric laws, which the artist feels and the mathematician understands."

"Yes, it turns out that stones live!"

"As the life of Nature manifests itself in more flexible forms of matter, harmony and rhythm become more and more complex with each higher step. The geometry of mineral life reappears in new variations and relationships at the next stage. Each plant is built rhythmically, the position of the leaf on the branch and the branch on the tree is determined by the laws of geometry and drawing. In each flower, the distribution of the calyx and petals, stamens and pistils shows that each flower is built according to the law of 'number'."

"So, a flower is also a work of art, only created not by man, but by the creative forces of Nature, isn't it?"

"Quite right. Flowers were created by Nature in the same way as paintings, statues, buildings were designed and created by human hands. How is the painting created? First, there is the artist's invisible design: invisible compositional axes and accents, the position and relationship of parts of the composition are outlined. Then the artist marks all this on the canvas. Finally, the marked space of the picture is filled with paints. In all likelihood, the same thing happens in the creative processes of Nature."

"But we don't see these preliminary creative processes in Nature!"

"Just as we do not see the mental creativity of a human person, although we know that it exists. Neither the creative processes of Nature, nor its creative forces are visible to our eyes. We only see their creations. But the idea of invisible builders of Nature is as old as the world. The imagination of humanity has always pictured to itself how the vital energies of Nature act under the guidance of these invisible builders. The ancients personified and poeticized them. Poetic imagination called them the spirits of the elements: gnomes (earth), undines (water), sylphs (air), salamanders (fire). Even now they live in legends and fairy tales of all peoples. And ancient Greece was just full of legends about fairies and elves, about nymphs and naiads."

"But now all this is considered superstition!"

"I would call it not superstition, but poetic personification. After all, in poetry flowers, trees, and even rocks speak. If Nature is capable of creating such wonderful beauty, then it can be considered intelligent. And in what form and image we present this intelligence to ourselves, what shape we give to it - it does not matter. In any case, such or a similar personification of the creative forces of Nature seems to me both attractive and poetic."

"And I think that such an embodiment can help our imagination to more vividly imagine their creative work in Nature."

"To my imagination, for example, Nature is portrayed as a vast workshop full of wonders. I see how hosts of such invisible workers take part in the construction of forms at all stages of the life of Nature. Myriads of great and small builders work by building cells, forming organs, sculpting and painting flowers. They choose from the 'factors' at their disposal what is most suitable for making that special form, the model of which was presented to them by the head of this department, or 'Deva', as he is called in the East."

During one of my visits, the artist once said:

"Truly, as the legend of the East says, 'the heaven settled down on the Earth in flowers.' This is why people love them so much. Flowers are the joy of the heaven embodied on the planet. And a person growing flowers multiplies this joy. Since ancient times, at all times and among all peoples, flowers have invariably been man's beloved friends."

And the artist recalled some of the milestones of this love of humanity for flowers - as history tells us about it.

An ancient Chinese proverb shows how flowers were loved in ancient China: "If you have two loaves of bread, sell one and buy a lily." Their favorite flowers were roses and chrysanthemums. Also, in ancient India the top place occupied the queen of flowers - the rose. And the lotus entered there not only poetry, but also religion and even philosophy. They also loved aconite - a beautiful dark blue helmet-shaped flower.

The artist recalled the mythical paradise - the biblical Eden, a wonderful garden with fragrant flowers. He talked about the Hanging Gardens of Babylon, famous for their wonderful flowers. He said that Ancient Iran was called 'the land of roses' - Gulistan (from the word 'gul' - rose), and its capital was Susa - 'the city of lilies.' In the gardens of Ancient Iran - Persian 'paradises' - grown were not only roses and lilies, violets and myrtles, but also poppies and daffodils, hyacinths and tulips.

As in India, in ancient Egypt the lotus was a sacred flower. Roses were nursed with love. And the lily was a symbol of freedom. Jasmine and lily of the valley, myrtle and poppies were also grown. In Judea, the favorite flowers were roses and lilies, also daffodils and myrtles, the latter were there the emblem of peace.

In ancient Greece, roses were considered a symbol of lighted joy. Plantations of violets stretched around Athens, personifying Nature annually regaining life. The sacred groves, full of wonderful flowers, were famous. In the flower beds of Hellas, lilies and daffodils, aconite and poppy, carnations and hyacinths, mignonette and levkoy, primrose and peony, iris and delphinium were also grown... In ancient Rome, during the period of republic, the rose was an emblem of strict morality. They also loved lilies and daffodils, violets and tulips, poppies and carnations.

The artist said that the ancient Greeks and Romans used wreaths and garlands as holiday decorations. Weaving wreaths in Ancient Greece and Rome was a kind of art. Laurel wreaths were awarded as a badge of honor to outstanding poets, sculptors, musicians, scientists - the word 'laureate' means 'crowned with laurels'. In our country in ancient times, in holidays and round dances, wreaths were the girls' favorite adornments. In the Middle Ages, a bride on her wedding day was crowned with a wreath of myrtle or rosemary. Currently, in Hindustan, Indochina and Indonesia, the custom has been preserved to put flower garlands on guests of honor.



On that same day the artist told many legends about flowers created by peoples. Those were legends about human suffering and joy, about human love and fidelity. Folk fantasy connected them with flowers, for both are beautiful and touching.

How lovely and tender are the white bells of the lily of the valley! How touchingly they hang on the stalks - like drops of tears... And the legends tell about tears of suffering and compassion, which have turned into flowers of lily of the valley. These are the tears of compassion of a poor girl who took pity on the heart of a hunchback, torn by unhappy love. These are the tears of joy of a cuckoo, who was frivolous before, and then suffered and for the first time heard the most beautiful word in the world - mother...

Many flower legends celebrate the beauty of human love. The legend of the lotus is a story of the great hot love of the Indian princess Lotha. The legend of the snowdrop is a story of the unhappy love of the Snow Maiden, the daughter of the Snow Mother, to the South Wind. The legend of the pomegranate is a story of the enduring and fearless love of a Turk man and a Greek woman, a love that defeated national prejudices.

Similar legends glorify human loyalty. One legend tells of the rose's faithful love for the frivolous East Wind. The other, about gladiolus, speaks of the brotherly love of two prisoners, gladiators-compatriots, who did not succumb to the female love of two Roman women who sought to separate them. The third legend - about hyacinths - is about the faithful and selfless love of the young man Hyacinth to the god Apollo, about the love that the nymph Daphne broke.

The legend of the lily tells about the faithful and selfless love of the bride Lily for the treacherous soldier Jacques. About a lily flower that has become a decoration for the bride - and then a decoration for her grave. And now the lily is a symbol of selfless love and fidelity, a symbol of virginity and nobleness.

The beauty of self-sacrifice is glorified by the legend of magnolia - about faithful love to self-forgetfulness, about a girl who gave the last drop of her blood for the sake of this love.

The legend of the lilac also speaks of the beauty of self-sacrifice - about the love and fidelity of sons who sacrificed themselves to save their mother...

So almost all the legends about flowers glorify the beautiful properties of the human soul - as wonderful as those flowers about which these legends are composed. And only the legend of the narcissus warns against self-love, narcissism...

8

Thus, the works of my friend artist - 'portraits of flowers' - opened my eyes to the finest beauty in the world, the beauty of flowers. Needless to say - not everyone sees it. And after I learned to cognize and understand the Beautiful in flowers, all the other beauty of Nature was gradually revealed to me, with all the perfection and wonderful details of a mighty life.

I told the artist how the beauty of the forest, this floral garden enlarged a thousand times, began to fascinate me. To this he said:

"Each tree has its own 'soul' - you have to see it. The masculine beauty of oak is different from the femininity of spruce, the tart character of pine is not like the softness of linden. As you can see, one can also paint portraits of trees. The relation of the trunk and branches, the delicate play of foliage, the filigree openwork of the crown, the whimsical line of the silhouette - all this singularity of each tree must be seen and appreciated. But that's not all. The forest is not a collection, not a crowd of trees. The crowd is only for people. The forest is always a harmonious team. And this is the added beauty that far exceeds the sum of the beauties of individual trees. This harmony of the forest can be seen in Shishkin's paintings. Finally, one must learn to listen to the music of the forest, as Čiurlionis heard it and conveyed it in his symphony."

"But the sea does not obey any 'number', any 'geometrization' which we talked about earlier. And yet, isn't it beautiful in its spontaneity? So it turns out that the beauty of the sea is based on completely different principles, right?"

"The dynamics of building of waves also has its own strict rules, its own patterns of rhythm. All the beauty here is in motion, in a whimsical dance, in the constant changeability of waves, in changing colors of the morning and evening sea. Look at how beautiful Aivazovsky saw the sea, how subtly he peeped and captured this eternally elusive beauty of it - and you will be enriched with another perception of the Beautiful. The formidable beauty of the raging sea will be yours. And you already know how to listen to the music of the surf and the sea storm - after all, you are so fond of Čiurlionis' symphony 'The Sea'."



Finally, I told the artist that my trip to Altai and the Caucasus introduced me to the most sublime, most unforgettable beauty of the majestic mountain ranges and peaks. To this he said:

"We have already mentioned the genius Russian artist Roerich. His paintings are a true hymn to the greatness of the Himalayas, a hymn to the cosmic beauty of the mountains. This is already the crown of painting depicting the beauty of Nature. You don't need to go to the Himalayas yourself - and how can you get closer to them? - it is enough to devote your time to admiring Roerich's paintings, and you will feel like you yourself have visited the Himalayas. Have you ever listened to the thunder in the mountains? This is the most magnificent, most solemn music. And what an irreplaceable loss for us that Čiurlionis did not have time to create the symphony of the 'Mountains'! And he would have inevitably written it if he had not left us so early..."

9

Such was my path to the Beautiful in the world. It started from the smallest - understanding the beauty of flowers. This means that we must first of all learn to love flowers. And the artist said:

"When we rejoice in flowers, when we delve deeply into their wonderful structure, the creation of a small grain, when we appreciate a fresh aroma - we already touch the Subtle World, the

Beautiful World. One must not waste an hour to learn the joy of each flower. And the joy of the Beautiful in Nature will lead to the understanding of true art. After all, if we do not notice the beauty of Nature due to the coarseness of our perception, then how can we see the beauty of art created by human hands? Our standing at the exhibition and in the museum will be standing in the dark. The beauty of poetry, the beauty of the works of great writers, the charm of music, the charm of an actor's play will also be alien to us. Finally, we will not be able to see the beauty of the human soul, the beauty of selfless love, to see the greatness of heroic achievement."

"What should be done to learn to notice, see and understand beauty everywhere, wherever it is?"

"In every human being it is necessary to develop the 'eyes of the beautiful' from the earliest childhood. Often, one touch is enough for the eye to see the beauty of a flower forever, but still an enlightened touch is needed. Still, that invocative 'look!' is necessary. Teaching beauty to the children is the highest, most sacred task of education. One must root their eyes in beauty. Indeed, Nature becomes a miracle for one who knows how to look."

"What does a developed ability to see and understand the Beautiful in Nature, in art and in life give a man?"

"The wisdom of the East says: 'Through beauty you have light. Each admiration for the Beautiful gathers the seeds of light. Each admiration for Nature creates a ray of victory. Thus, admiration for beauty will be the shortest path to the accumulation of psychic energy. A hotbed of a beautiful garden of fiery energy is in the joy of the Beautiful, but learn to rejoice at every leaf that has awakened to life. Learn to understand that such joy is not idleness, but the harvesting of the treasure. Learn to accumulate energy through joy!'"

"So, through the ecstasy of beauty, a person acquires spiritual strength. That is why I feel spiritually strengthened after admiring the beauties of Nature and art!"

"Plato says: 'To look at the Beautiful means to improve.' Yes, beauty is a mighty force. It acts in an ennobling, uplifting and pacifying way for everyone. Everyone bows down to beauty, even the most proud one. Beauty evokes the highest emotions and bright impulses in everyone, even in the grossest person. Before the manifestation of true beauty, everything that is coarse, vulgar, and low hangs down. The influence of beauty on the moral development of man is truly beneficial. So the road to the world of the moral goes through the world of the beautiful. The beautiful transforms a person, elevates and sublimates him. Who can find a better frame for devotion, for striving, for indefatigability than beauty?"

And the artist said further:

"The ability to see and understand beauty evokes love for the Beautiful in a human being. After all, we love everything that we consider beautiful. And the one who follows the path of understanding beauty, by educating his heart in the rays of the Beautiful, learns to love. And whoever has learned to love flowers will love the whole of Nature, love his smaller brothers, animals and birds."



"But if the love of beauty opens the heart for the love of all living things, then does it also give rise to love for a human being?"

"Yes, for love you need to open and educate your heart. But where is the access besides the key of the Beautiful? Thus, the love of beauty opens the heart, and then an open heart will be able to love humanity. And he who loves flowers will love people, seeing in every person a flower of spirit, growing, slowly blossoming, and sometimes - but rarely - also fragrant..."

"And such love for humanity prompts selfless actions, doesn't it?"

"Yes, this is the way of true life: beauty - love - action. Just like the flowers of Nature, you will want to take care of the human flowers of the spirit. But this vegetation is thorny. It hurts painfully the one who inadvertently touches it. Many who sought to care for the wild flowers of humanity bled to death. But for someone who really fell in love with flowers, such an activity is inevitable. The path of service to humanity, the path of heroic achievement in life, is inevitable for those who fell in love with flowers. And this path will lead to the brotherhood of all people."

"It turns out that we must learn to live..."

"One good writer said: 'The whole human life - if only the human being knew how to live it - could become a unified harmony of thought, feeling and action, embodying - one by one -

images of beauty. Every atom and every cell longs to express its striving for order, rhythm and beauty, in order to make a melody out of its life in the eternal symphony of the Cosmos. For we create music wherever we go, with all our actions, emotions, and thoughts. We either enrich the great chords of the Cosmos and bring variations of our own melodies into them, or we distort the music of Nature and introduce dissonances that create disorder in the melodies with which beings nobler than we try to enrich it."

2

THE LIVING ETHICS ON FLOWERS**Editor's Foreword**

The Living Ethics, also known as Agni Yoga, is a religio-philosophical teaching created by Helena Roerich in 1924-1938 and published as a series of 14 books. It states that, besides our own habitual earthly world, there are several subtler worlds. In the subtle worlds, a person with the appropriate abilities and senses can directly view the energy aspects and emanations of objects, for example, flowers, and correctly use the aromas and subtle-energetic emanations of flowers for healing. More detailed information about Agni Yoga can be found in Wikipedia:

https://en.wikipedia.org/wiki/Agni_Yoga

Agni Yoga books are composed of small numbered paragraphs. Below are all the paragraphs that mention flowers. The source texts of Agni Yoga are posted on the Agni Yoga Society website at:

<http://www.agniyoga.org/index.php>

These texts are used with permission from the Agni Yoga Society. Printed books are also available for purchase from the Agni Yoga Society.

Leaves of Morya's Garden. Book Two: Illumination

108. Merging into the summits of Cosmos, one must find coordination with Earth. Each moment We are ready to forsake everything of Earth and at the same time We love every blossom on it. Therein lies the wisdom as to what remembrance to cherish: whether about the crown or the fragrance of freesias, the shouts of victory or the songs of shepherds. That which is the most dear but least of all belonging to us is the best load to carry on the way. Song brings us health, and blossoms will heal wounds. Therefore, I say, happy are those who understand sound and color.

From the very beginning the prophets have noted sound and color. The ancient instruction about the ringing of bells is full of meaning. Wreaths and garlands recall the understanding of healing power. According to the color of his radiation, each one is attracted by flowers. White and lilac have affinity with the purple, blue with the blue; therefore, I advise to keep more of these colors in the room. One can follow this in living flowers. Plants wisely selected according to color are more healing. I advise to have more freesias. Our Ray, with its silveriness, is more reminiscent of white flowers. Color and sound are Our best repast.

121. Let us compare now the spirit-knowledge and the command of the will. The knowledge blossoms, manifesting protection and illumining the fundamentals. The command of the will is directed into alien spheres, and conquers and annexes. The command is denoted by the symbol of a sword and arrow. The symbol of the spirit-knowledge is a flower. The command can be communicated to the disciple from outside by a swift sending. Whereas, the spirit-knowledge blossoms from within, and cannot be evoked by any wand. Like a flower, the knowledge blooms in its destined hour.

How, then, may one assist the flower? Place it in a quiet spot, give it sunlight, and forbid anyone to touch and pluck the leaves. Without the spirit-knowledge one cannot raise to its height the knowledge predestined for humanity.

122. The growth of the works is similar to that of lilies. Near a garden wall one white sister has hidden herself. She has no companions, but the stalks already carry the evidence of new ones.

The incarnation as a flower is not often repeated. Some strive to the more massive forms of trees, but the charm of flowers is not always accessible, and one may not easily turn twice to them. There is no forbiddance against circumventing one of the animal incarnations by way of the plants. I would not say that the consciousness of many insects is superior to the consciousness of beautiful flowers. It is wise to outlive certain incarnations by sojourn as a flower. "Hasten, hasten! I will wait under a beautiful dome, and I will still be ahead of you." Thus, the path of beauty shortens the road.

128. Sound and flowers become a necessity for further flights. The sounds of the life of the spheres and the vital emanations of flowers truly enter into the recipe of Amrita.

133. The serpent of the solar plexus helps to surmount the confusion of the nerve centers; that is why the serpent was a regal symbol. When the coils of the serpent begin to curl, the organism becomes especially sensitive. Flowers transmit their vital emanation through the fibres of the tissues of the white blood corpuscles, which defend the citadel of the serpent. In nature, serpents love flowers; similarly, the serpent of the solar plexus is nourished by them.

Pigs also trample upon flowers, but without any effect on themselves. Therefore, without conscious consumption of the vital emanation one may pass over the best remedies. Hence the desire to see the flowers unplucked.

159. Nothing gathers the essence of prana as well as do plants. Even pranayama may be replaced by association with plants. And it should be understood how assiduously the eye must fathom the structure of the plants. The pores of the plants are enlarged not only by the advent of new leaves and flowers, but also by the removal of dead parts. The law of Earth's nurture affords, through the antennae of the plants, the possibility of drawing out of this reservoir by means of smell and sight the precious quality of vitality, the so-called Naturovaloris, which is acquired through conscious striving.

Valuable as are the living plants which have not lost their vitality, preparations from them dried in the sun may also be useful. But the stage of decomposition should be avoided, because decomposition is the same in everything and always attracts the most imperfect spirits. Therefore, one should watch the condition of cut flowers. The smell of decomposition must be sensed, as it is not the external appearance but the smell which manifests the symptom.

When it is not the season for flowers, it is useful to have small pine trees. Like a dynamo they accumulate vitality, and they are more effectual than right breathing. Instead of by ritual breathings one can thus receive a most condensed supply of prana. Of course, a state of rest also increases the action.

Vital understanding of the power of nature will provide without magic a renovation of possibilities.

291. Amidst dusty daisies rises a lily of Heavenly Purple. It is better to live near the Celestial Flower, for earthly flowers are the sole living bond between Earth and Heaven.

In the creation of floral pollen there are precipitated, as it were, crystals of prana. Without frivolity one can say that in flowers the Heaven settles down upon Earth.

If the Earth were deprived of flowers, half of its vitality would disappear. Just as important is the snow, and like beacons of salvation stand the snowy mountains.

New Era Community

142. You know what collectors of electricity pine needles are. Not only do plants serve salutarily by their extracts, but the plant emanation produces a strong effect on the surroundings. One may

see how man can be helped by a bed of flowers consciously combined. Absurd are mixed flower beds whose mutual reactions destroy their good effect. Matched or homogeneous ones can answer the needs of our organism. How many useful combinations there are in fields covered by wild plants! Combinations of plants which are natural neighbors must be studied as instruments of an orchestra. Those scientists are right who look upon plants as subtly sensitive organisms. The next steps will be the study of the reaction of groups of plants on each other as well as upon man. The sensitivity and reciprocal action of plants upon surroundings is indeed astonishing. Plants are manifested, as it were, as a binding substance of the planet, acting on a network of imperceptible interactions. True, the value of plants was long ago foreseen, but group reciprocal actions have not been studied. Until recently people have not understood the vital capacity of vegetable organisms and have senselessly cut clusters of heterogeneous plants, not caring about the meaning of what they were doing. A man with a bouquet is like a child with fire. Exterminators of the vegetation of the planet's crust are like state criminals.

Remember, We do not like cut flowers.

182. True, true, true—people must settle themselves in tested localities. Even a bear shows greater care in selecting his den. Plants will indicate the better possibilities. Look for cedars and pines, heather and oak, grass and flowers of vivid color. Natural electrification in a locality is necessary. Large, long needles of evergreen are the best condensers of electricity. Heights above eleven thousand feet, devoid of vegetation, provide useful prana.

Hierarchy

316. Healing through the fragrance of flowers, resins, and seeds goes back to hoary antiquity. Thus, a rose not only possesses a similarity to musk but also prevents imperil. A garden of roses was considered by the ancients as a place of inspiration. Freesias are beneficial for the sympathetic nervous system, which vibrates so much in a Yogi. The seeds of barley are unsurpassed for the lungs. You know already about mint, about the resin of cedar and other resins. Perfumes are now bereft of meaning like all other desecrated values, yet the origin of fragrance underlies a useful but forgotten knowledge. Certainly the poisons of antiquity were very subtle. The newly invented narcotics are comparatively crude; chiefly, they destroy the intellect—in other words, precisely that which sustains the balance in all psychic experiments.

368. You have heard of the fragrance emanating from the saints. We shall point out how the aura of saints, bringing them back to the bloodless kingdom, gives them the fragrance of the flowers through which they passed during their round of early incarnations. Thus, one can also heal by applying corresponding flowers to the body.

Heart

15. The ignorant, in their hypocrisy, may humiliate us, but the way is one, and nothing will obscure it if the heart is pure. It was wise to liken the heart to a ship, but where there is a ship, there is a helmsman. Courage is born of a pure heart. One might compare it to a rose, where the significance of the flower lies in the number of its petals. If they are torn off, the flower as a whole is injured. Therefore, guard the defenses of the heart. Wisely understand that only the lord of the flower has access to all its petals.

66. You know about the influence of human emanations on plants, and you also know about the influence of color. Now it is necessary to recall the significance of sound. The similarity of these various influences is quite remarkable. Since an open, brightly resonant heart is needed to increase the potentials of a plant, then when it comes to the influence of sound, consonance and all the combinations of the dominant tones are necessary for the same purpose. A manifestation of dissonance cannot strengthen the flow of energy. Dissonances may be useful in the way they affect people, for as an antithesis they can reinforce the rhythm of consciousness; but with plants, where consciousness is minimal, dissonance is only a condition that retards growth. With minerals, dissonance may be a source of disintegration. Truly, a rose is a symbol of consonance, and the dominant chord of the rose's radiation is linked with the glow of the heart. Few experiments have been conducted on the effect of sound on plants, but the ancients believed that the finest flowers grew by the temples, where the harmonies of voice and music often rang out.

332. In the Subtle World exist diverse affirmations of the earthly world. Even a prototype of the seasons of the year goes round from the perspective of the Subtle World consciousness. Therefore, images of plants or mountains or the surfaces of bodies of water are not foreign to the Subtle World, though they are in a transformed condition, of course. The heart that knows the Subtle World knows flowers and mountains, snows and seas. Flowers thrive in a profusion of forms, and their colors are indescribably more complex and varied than the earthly pallet. The snows are whiter, more crystalline, and richer than their earthly counterparts. One can begin to discern the entire structure of the Higher World. A person who has thereby accumulated a clear, benevolent consciousness on the earthly plane will also be a good builder in the Subtle World. He will bring along with him not monstrosities but the beautiful proportions and rhythm that answer to the majesty of the Infinite. Is the spirit's duty so overwhelming if it has perfected the heart? Only the luminous awareness of the heart will carry the subtle body into the higher Abodes. So everyone who prepares his heart and uplifts the hearts of those around him is already doing the will of the One who sent him. When people ask in jest if the heart might be an airship since it can rise to lofty heights, tell them that their joke is not far from the truth. Actually, the energy of the heart has such a close resemblance to helium and other gases of the subtlest nature, it is not far from the spiritual truth to imagine the ascension of the heart.

398. In order to approach a method of the heart, one first of all has to love the world of the heart; or to put it more precisely, one has to learn to respect everything pertaining to the heart. Many people imagine that there is absolutely no difference between the paths of the brain and the heart. It is difficult for such “brain people” to accept the higher worlds. Likewise, they find it hard to imagine how the Subtle World can be superior to the earthly. The manifestation of the subtle spheres corresponds to the subtle state of the heart. Therefore, a heart that is already resonating to the rhythm of space will know the resonance of the spheres and also the subtle aroma; and the flowers, all resonating to the same vibration, will make obeisance to it. Seeing the flowers of the Subtle World means that one is already ascending to the Beautiful Sphere. It is also possible to see these purified images in a waking state, but for this to happen the flame of the heart is necessary. One can also see the fire of the heart soaring in beauty above it. But for these manifestations to take place, the heart has to be kindled. So the heart is not an abstraction but a bridge to the higher worlds.

Fiery World I

227. People must not keep anything rotten in their houses. The presence of fermentation or of stagnant water attracts undesirable entities. When the photographing of entities of the Subtle World becomes more advanced, it will be possible to record on film the difference between the surroundings of a bit of cheese or meat and that of a fresh rose. Obviating logical arguments, one can actually see that the forms attracted by meat are repellent. These lovers of decomposition even accompany to the mouth itself the dish fancied by them. Also, before photographing auras one can gain experience by taking pictures of objects with their surroundings. As always, the experiment requires patience and perseverance. It should begin with indicative objects. Of the pure aromas, one must prefer the rose; it contains a very lasting oil. But it should not be forgotten that flowers should be gathered before decomposition has set in. I point out roses because they contain the greatest quantity of fiery energy. Thus, lovers of roses are near to fiery energy. The entities that feed on decomposition avoid the aromas of fiery energy. One must accept this indication in all simplicity, and just as information from a pharmacy.

638. It is said, “Do not enter Fire in inflammable garments, but bring a fiery joy.” In this indication lies the entire prerequisite for communion with the Fiery World. Verily, even the garments of the Subtle World are not always suitable for the Fiery World. So, too, the joy of ascent must transcend any earthly joy. It must shine, and by its Light be a beacon to the many. Who, then, can deride joy and Light? The mole does not know the attraction of light; and only an evil spirit does not understand what joy is! When you rejoice at flowers, when you seek in thought to penetrate into their wondrous structure, into the creation of a small seed, when you value the fresh fragrance, you already have contacted the Subtle World. Even in the flowers of

Earth, in the plumage of birds, and in the wonders of the heavens, one can find that very joy which prepares one for the gates of the Fiery World. Chiefly, one must not be dead to beauty. Where can one find a better setting than beauty for devotion, for aspiration, for indefatigability? Amidst earthly conditions one must learn to find that which is applicable to all worlds. There will be no time for deliberation at the moment of crossing into the Subtle World; the illumination by joy can and must be instantaneous. Thus, consciousness is actually preserved by joy. But one must not lose even an hour here on Earth in learning to rejoice at each flower.

Fiery World II

101. It is correct to remove from one's home all rotting substances. But besides decomposition of meat and water, equally harmful are decaying fruit and wilting flowers. When someone takes measures for the removal of dead flowers, one may observe that straight-knowledge removes lifeless plants not only in the name of beauty, but through knowledge of the law of the Subtle World. Since lower entities feed upon decomposition, then for lack of putrid products they are satisfied with plants. He can be commended whose spirit whispers the correct attitude toward all surroundings.

179. I entrust you to testify about the Fiery World as existing, with all the attributes of existence. Fiery blossoms are distinguished by their radiance, but they may be compared in structure with roses; small vortical rings form, as it were, a combination of petals. Similarly, ozone, in the higher state, reproduces, as it were, the odor of evergreens. Also, the radiance of auras is like cloud arches, and rays are as streams and waterfalls. Thus, in the higher forms the wise one will find likenesses of earthly images. He will not see the earthly existence as abased thereby, for in all states of being the foundation of energy is the same. The wise one will not seek a precise counterpart of God in an earthly body, for only the fiery body will preserve the same sparks as the Higher Beings. Should it not be pointed out in schools wherein we are like God, so as to justify the ancient Covenants of which people have made a laughingstock? Everywhere the highest concept must be clarified. One must not fear to come forward and help wherever it is possible to elevate the consciousness. The Teaching is in need of those who will bear witness. It responds to all, without distinction as to creed and nationality. Above all let the one sun shine. It is not difficult to speak about unity, through the path of science. Let the manifestation of beautiful correlations unite the most diverse elements.

197. Who said that musk is merely a stimulant? It can have an equilibrating importance, bringing into motion basic energies. It is regrettable when such multiform, powerful reactions are reduced to a single manifestation. The poorer the idea of it, the cruder the hypothesis. This refers also to many indicated remedies. No one thinks about the significance in synthesis of valerian. No one is

willing to understand mint as a friend of life, ready to exercise a calming effect upon rebellious centers. No one wishes to observe the action of milk combined with soda. Thus broad is the field of observation for eyes which have been opened.

Mint can be useful even as an indoor plant, for the emanations of its living leaves are most subtle and natural, as are those of roses. Where one can have flowers, oils are not needed. Thus, the most alive and the most natural are the best of all. Let us not forget that mint and roses are excellent disinfectants.

AUM

384. Besides investigating psychic energy by the use of color, make tests of it with sound and aroma. It is possible to obtain indicative reactions to music; furthermore, observe both the effect of distance and of the most consonant harmonies. Much is said about the influence of music upon people, but almost no illustrative experiments are carried out. One may observe the influence of music upon people's moods, but that will be commonplace. Indeed, it is assumed that gay music communicates joy, and sorrowful—sadness, but such deductions are insufficient. It may be ascertained what harmony most closely adjoins the psychic energy of man, what symphony can have the strongest quieting or inspiring influence upon people. Different musical compositions need to be used in tests. The very quality of harmonization will give the best indications about the paths of sound and the life of man.

Likewise, it is indispensable to investigate the influence of aromas. It is necessary to approach both fragrant flowers and different compounds, which must stimulate or diminish psychic energy.

Finally, one can combine color, sound, and aroma, and observe the cooperation of all three motive forces.

Brotherhood

466. It is impossible to understand why even the simplest observations are overlooked. For example, in studying aromas insufficient attention is paid to the usefulness or harmfulness of different very pleasant odors. All flowers have a particular designation, yet so-called perfumes bear conventional floral names. No one is concerned about the usefulness of the perfumes, but the essences used to make them up are sometimes almost poisonous. It is regrettable what the teaching about color and aroma has turned into when people propose to use arsenic coloring or deadly aroma!

Supermundane

28. Urusvati has admired Our flowers, in some species of which We have indeed achieved perfection. Of first importance is the use of psychic energy because it helps vegetable growth. We also irrigate with soda and in this way act from both the outer and inner side. One can experiment widely with psychic energy, but it must be done systematically, not forgetting that much time and patience are needed. Many experiments successfully started have been ruined by lack of patience. Moreover, Our radiations are harmonized, and because of the equality of Our psychic energy, each One of the Masters can substitute for another.

People fail to understand to what extent these investigations are of use to them. Psychic energy must be interchanged. The sending of this energy to people may be fatiguing, but with vegetation there is no rebounding blow. Likewise, let us not forget that We maintain close cooperation with the Subtle World, and this reservoir can easily replenish Our energy.

It is difficult for many to imagine how cooperation can proceed between entities in three different states of consciousness, but in reality it is not so complicated. Co-workers in the subtle body are often visible. For this no ectoplasm is required, but certain chemical compounds are used that aid in the densification of the subtle body. During the last war many people had visions, but no one realized that the cause of this lay in particular chemical agents. The conditions differ to such an extent that often something causing decomposition in the physical world can serve quite the opposite purpose in the Subtle World.

Urusvati was surprised to see that flowers from the plains could survive on Our heights. It must not be thought that such acclimatization can take place quickly. Urusvati has met with her Tibetan Friend in Our flower garden. We also have many plants inside Our buildings. For many experiments it is necessary to use the vital substance of living flowers. We advise conversing with flowers more often, for these currents are very close to the Subtle World. I affirm that We apply Our Power to all that exists. Thus We have the organic unity on which I so often insist.

3

THE MAGICIANS**by V. I. KRYZHNOVSKAYA (ROCHESTER)****Editor's Introduction**

Vera Ivanovna Kryzhanovskaya (1857-1924) was a Russian writer, author of historical and occult novels. She claimed that her novels were dictated to her by the spirit of the English poet John Wilmot, Earl of Rochester, so she put the pseudonym Rochester next to her last name on all her books. The most popular Kryzhanovskaya's work is the pentalogy *The Magicians*. The second volume of the pentalogy has the same title, *The Magicians*, and was published in 1902. Below is a passage from the second volume about the inherent energies and healing properties of plants. The copyright for the title has expired long ago and it is currently in the public domain. More detailed information about Kryzhanovskaya can be found here:

<https://www.encyclopedia.com/women/dictionaries-thesauruses-pictures-and-press-releases/kryzhanovskaia-vera-ivanovna-1861-1924>

The passage was translated from the Russian by the Editor.

The Magicians by V. I. Kryzhanovskaya (Rochester)

Once, when they talked for a long time about the treatment of various diseases, Supramati suddenly asked:

"Explain to me, for God's sake, Dahir, why it is necessary to be a good doctor."

"Because the body is a necessary instrument of the soul - a very complex and demanding machine. Therefore, the magician must know all the means that serve for healing, as well as for the destruction of the body. Being a doctor himself, you know that for the formation of the human body, nature uses mineral, vegetable and animal substances, which are consumed by the

mother during pregnancy and then serve to maintain the flame of that drop of the primordial matter which the parents bestow upon the future human being at the moment of conception. The action of other very powerful agents, such as color, sound, aroma, etc., are still little known to modern science. Meanwhile, true medical science lies in the ability to use all means to remove excess substances from the body and to introduce the missing ones into it.

"Therefore, you should learn to find everywhere - both in the atmosphere and in different kingdoms of nature - active forces capable of maintaining the vitality of every creature; and at the same time, you must study the means of destruction, both occult and material."

"I have always been interested in botany and the wonderful properties of plants; but what I've already heard from you proves that I know very little about it," Supramati remarked thoughtfully.

"This is quite natural, since science gives plants a secondary place in treatment. In his pitiful ignorance, the man tramples underfoot the humble benefactors of humanity who grow at his feet; and yet nature, by her wise foresight, provided the necessary remedy for every ailment. If doctors possessed a magnifying glass similar to our magic glasses, they would be extremely surprised by their discoveries. For proof, I will show you some herbs and roots under the magic glasses, since your spiritual sight has not yet developed."

Dahir went to a large oak box with metal corners on bronze legs and opened it. The entire interior of the box was divided into compartments filled with herbs, dried flowers, roots, small bottles, and precious stones.

Supramati bent down and studied the contents of the box with curiosity; Dahir, on the other hand, took out some plants from two adjacent sections and put them on the table.

"Do you want to show me arnica and valerian?" Supramati asked in surprise.

"Did you expect to see some unfamiliar, extraordinary plant in its appearance?" - Dahir answered with a smile. - "I deliberately chose these well-known herbs, for which even your 'proud' science recognizes healing properties, although it classifies them as folk remedies. Now take your magic glasses and admire these two great representatives of the plant kingdom in all their occult splendor. What you will see is the highest degree of the light discovered by Hellenbach, which is emitted by objects and which he called 'od'. You know that this discovery is still heavily contested; so far the most that is admitted as a fact is that from the ends of the fingers and from the crystals light rays of various colors are emitted. With this instrument you will see the astral force emanating from every object. Initiates see it directly, with their spiritualized vision, which immediately allows them to determine whether the given substance is healthy or harmful."

"Let me examine these great healers of the plant kingdom once more with my plain eye, so that I can better understand the difference I'll see in a moment," Supramati said, carefully examining the small arnica flowers and darkened valerian roots. "My blind and ignorant eyes cannot reveal anything special about these two representatives of the plant world," he remarked with a smile, putting on strange glasses.

And suddenly a scream of surprise and admiration escaped Supramati's lips as the humble plant changed its appearance. The small yellow petals of arnica looked like golden stars, and the heart transformed into a ball of bluish light that vibrated incessantly. From the yellow petals emanated small, as if electric needles, which, passing through the bluish cloud, seemed to weave in the atmosphere a thin web-like fabric covering the plant with a luminous cover that vibrated and was furrowed with a lightning.

"Do you see this amazing job? This is a fluidic weaver. It renews and fixes tissue damage, both fluidic and material, caused by injury, blow, etc. Hence its wonderful properties, healing wounds and preventing the bad consequences of fractures and bruises. The life-giving arnica scent immediately disinfects the damaged area, while the small electric machine disperses the blood accumulated from the blow, replaces the vital substance where necessary and renews the tissue. In addition, arnica has the ability to attract and accumulate an enormous amount of solar heat. You can imagine yourself what a powerful effect the powers of this humble healer produce on the body of a human person, animal, and even plants, when they know how to use it to heal broken and crumpled flowers and flowers dying from exhaustion. However, I shall warn you that the study of all the healing properties of this plant and their uses is an enormous work. Now let's move on to examining the valerian," added Dahir, putting the arnica back into the box.

Silently and intently, Supramati bent over the root, which also changed its appearance. The root was now as red as blood. Thick veins with electrical nodes passed through it. Each of the roots seemed to be showered with sparks, and a small flickering flame burned in the center, from which fiery threads stretched all along the veins. A purple light with a golden shade emanated from the entire plant and formed a wide halo around it.

"The astral fire accumulated in this plant, being introduced into the body, stimulates vital activity, calms and warms the body, acting mainly on the functions of the brain and the work of the heart," - said Dahir, taking the magic glasses from his friend and putting them in the case.

"Perhaps other plants are less richly gifted than these two princes of the plant kingdom, aren't they?" Supramati remarked.

"Yes and no! Some plants have a special purpose; but there is not a single blade of grass, not a single herb, which does not possess some harmful or beneficial quality. And this is quite natural, since the plant draws its strength from everything that surrounds it: the atmosphere, the currents of the stars, the earth with its minerals, water with its salts - all serve for its formation.

"All these elements, with their inexhaustible riches, healing and destructive, are at the disposal of a higher magician and give him almost fantastic power, if you add aroma, sound and color - these great engines of the universe, which he alone can and knows how to control."

4

SELECTIONS FROM RUDOLF STEINER**Editor's Foreword**

Rudolf Steiner (1861-1925) was an outstanding German adept of the early 20th century, the founder of anthroposophy, a philosophical and esoteric teaching devoid of religious elements. Anthroposophy advocated knowledge gained from personal spiritual research. Steiner himself widely used this method to study the history of the solar system and earthly mankind and to solve practical problems in agriculture, medicine, pedagogy and many other areas. As a result, he laid the foundations for biodynamic agriculture, eurythmy, new directions in dramatic art, painting and architecture, Waldorf pedagogy, and a new approach to medicine based on the use of natural medical products.

According to Steiner, each plant species has its own ideal archetype, which it follows in the course of its evolution and which it tries to embody. In 1924, Steiner made an interesting attempt to depict an archetypal plant as he saw it (see a reproduction on the next page).

Below are some brief excerpts from Steiner's books and lectures pertaining to plants and flowers. These materials are freely available at the large online library of Steiner's works in the original German and in the English translation:

<https://www.rsarchive.org/>

Readers interested in purchasing printed books are encouraged to visit a bookstore at [rsarchive.org](https://www.rsarchive.org/) or any large general-purpose online bookstore like [amazon.com](https://www.amazon.com/).

More information about Steiner's life and work can be found in Wikipedia:

https://en.wikipedia.org/wiki/Rudolf_Steiner



Rudolf Steiner. An Archetypal Plant. Watercolor, 1924.

Source: *Archetypal Plant: Rudolf Steiner's Watercolour Painting* by Angela Lord, Temple Lodge Publishing (2015).

**R. Steiner. Man's Life on Earth and in the Spiritual Worlds (1930),
p. 39.**

Imagine before you a meadow. From each single flower on the meadow - from the flowers too that blossom on the trees around - a spiral rises and goes out and out into cosmic space. These circling spirals carry the forces whereby the Cosmos fosters and regulates the growth of plants on Earth. For plants do not grow merely out of their seed; they need also for their growth the cosmic forces that surround the Earth with their spirally directed influences. And the cosmic forces are there in winter too; they are there even in the desert where no plants grow. When night comes for man, he has to use these spiral forces as a kind of ladder whereon he may mount up into the realm of the planetary movements. Man ascends into the movements of the planet on the ladder of the spiral rays that circle upwards from the plants.

And then there is another force, the force that makes the plant shoot upwards from its root, - for there must be a force at work to enable the plant to grow upwards.

**R. Steiner. World History in the Light of Anthroposophy (1977),
p. 66.**

Take for instance a passage in the poem [Lamprecht's *The Song of Alexander*] where a wonderful description is given after the following style. When spring time comes, you go out into the woods. You come to the edge of the wood. Flowers are blooming there, and the sun stands where it lets the shadow fall from the trees on to the flowers. And there you may see how in the shadow of the trees in spring spiritual flower-children come forth from the calices of the flowers and dance in chorus at the edge of the wood.

In this description of Lamprecht the Priest we can perceive, distinctly shining through, an old and real experience which was still accessible to men of that time. They did not go out into the woods, saying prosaically: Here is grass, and here are flowers, and there the trees begin; but when they approached the wood while the sun stood behind it and the shadow fell across the flowers, then in the shadow of the trees there came towards them from the flowers a whole world of flower-beings — beings that were actually present there before they entered into the wood. For when they came in the wood itself they perceived quite other elemental spirits. This dance of the flower-spirits appeared to Lamprecht the Priest and he delighted especially in picturing it. It is indeed significant, my dear friends; Lamprecht, even as late as the 12th or beginning of the 13th century, wishing to describe the campaigns of Alexander, permeates them everywhere with descriptions of Nature that still contain the manifestations of the elemental kingdoms.

Underlying his *Song of Alexander*, there was this consciousness: 'To describe what took place once upon a time in Macedonia when Alexander began his journeys into Asia, when Alexander

was taught by Aristotle, we cannot merely describe the prosaic Earth as the environment of these events; no, to describe them worthily we must include with the prosaic Earth the kingdoms of the elemental beings.'

R. Steiner. Man as a Being of Spirit and Soul (1964), p. 84-85.

In modern scientific life the connection with nature has been lost, for we have no real picture of nature. This or that substance is tried to see if it has any ability to heal a particular illness, but in fact there is no real knowledge of such things. Through the Science of the Spirit we can come to a real understanding of plant life, of each individual plant and of the great differences which exist between the roots, the leaves and the flowers, and we can come to understand how connections of a spiritual nature lie behind the life of the roots, the leaves, the flowers and in the life of the herbs. We learn how man stands in relation to this world of nature, out of which he has grown. We obtain an overall view of the relationship of animals, plants and minerals to the human being, and it is through this that we acquire a rational therapy. In this way medicine can be made more fruitful.

R. Steiner. Esoteric Lessons, 1913 and 1914, 1920-1923 (2011), p. 65.

We do not bring about the drives and desires that live in us; for the most part, they rule us. Two-thirds of these feelings — in the best of cases, one-half — come from luciferic and ahrimanic beings, through the maya of the outer sense world. It would have been quite different with human feeling if the progressive, developing hierarchies had been the only ones to work in it. Then human beings would have been in a world of archetypes. For instance, they would have seen the archetype of a flower. When they then would have seen the flower during the day, they would have seen along with it and at the same time, the archetype of the flower as etheric forces that swirl around the plant. Forces also weave through human beings in this way; and when we make this into our feeling and our view, it can have a good effect on us. We can recognize the plant as something related to us in its being and nature.

R. Steiner. Mysticism at the Dawn of the Modern Age (1980).

The one who will allow spirit to be only the logical intellect may feel his blood run cold at the thought that things should experience their rebirth in the spirit. He will compare the fresh, living flower outside, in the fullness of its colors, with the cold, pale, schematic thought of the flower. He will feel especially uncomfortable at the idea that the man who takes his motives for acting

out of the solitude of his self-knowledge, should be freer than the spontaneous, naïve personality which acts out of his immediate impulses, out of the fullness of his nature.

To such a man, who sees only the one-sided logical aspect, one who submerges himself within himself will appear as a walking schema of concepts, as a phantom, in contrast to the one who remains in his natural individuality. — One hears such objections to the rebirth of things in the spirit especially among those who are, it is true, equipped with healthy organs for sensory perception and with lively drives and passions, but whose faculty of observation fails when confronted with objects of a purely spiritual content. As soon as they are expected to perceive something purely spiritual, their perception is wanting; they are dealing with the mere shells of concepts, if not indeed with empty words.

Therefore, when it is a matter of spiritual content, they remain the ‘dry,’ ‘abstract men of intellect.’ But for one who has a gift of observation in the purely spiritual like that in the sensory realm, life naturally does not become poorer when he enriches it with spiritual content. I look at a flower; why should its rich colors lose even the smallest part of their freshness if it is not only my eye which sees the colors, but also my inner sense which sees the spiritual nature of the flower as well? Why should the life of my personality become poorer if I do not follow my passions and impulses in spiritual blindness, but rather irradiate them with the light of a higher knowledge? Not poorer, but fuller, richer is the life reflected in spirit.

R. Steiner. The Temple Legend (1985), p. 172.

The plant has its roots in the earth and unfolds its leaves and blooms to the sun. At present the sun has in itself the force which was once united with the earth. The sun has of course separated itself from our earth. Thus the entire sun forces are something with which our earth was at one time permeated; the sun forces then lived in the earth. Today the plant is still searching for those times when the sun forces were still united with the earth, by exposing its flowering system to those forces. The sun forces are the [same as those which work as] etheric forces in the plants. By presenting its reproductive organs to the sun, the plant shows its deep affinity with it; its reproductive principle is occultly linked with the sun forces. The head of the plant, [the root] which is embedded in the darkness of the earth, is on the other hand similarly akin to the earth; Earth and sun are the two polar opposites in evolution.

R. Steiner. An Outline of Esoteric Science (1997).

[W]hen a plant passes from the flowering stage to the fruiting stage, supersensible observers see a transformation taking place in an astral entity that covers and surrounds the flowering plant like a cloud coming from above. If fertilization did not take place, this astral entity would

metamorphose into a form quite different from the one it assumes as a result of fertilization. We can understand this whole process as supersensible observation perceives it if we have learned to understand its nature from the great cosmic process undergone by the Earth and all its inhabitants at the time when the Sun separated from the Earth. Before fertilization, the plant's situation is like that of the whole Earth prior to the Sun's detachment.

After fertilization, the plant's flower resembles the Earth when the Moon forces were still active in it after the Sun had detached itself. If we have personally acquired the ideas that can be gained from studying the Sun's detachment, we will then objectively perceive the meaning of the process of fertilization in the plant. We will say that the plant is in a sun state before fertilization and in a moon state afterward. Even the very smallest processes in the world can only be understood if we see them as copies of great cosmic processes. Otherwise, their nature remains just as incomprehensible as Raphael's *Madonna* would be to someone who saw only a little speck of blue because the rest of the picture was covered up.

R. Steiner. Harmony of the Creative World (2001), p. 68-70.

If one looks at a butterfly, or indeed any insect, from the stage of the egg to when it is fluttering away, it is the plant raised up into the air, fashioned in the air by the cosmos. If one looks at a plant, it is the butterfly held in fetters below. The egg is claimed by the earth. The caterpillar is metamorphosed into leaf formation. The chrysalis formation is metamorphosed into what is contracted in the plant. And then the same principle that unfolds to produce the butterfly develops into the flower in the plant. Small wonder that such an intimate relationship exists between the world of the butterflies, the insect-world in general, and the world of the plants. For in truth the spiritual beings which underlie the insects, the butterflies, must say to themselves: Down here are our relatives; we must maintain allegiance with them, unite ourselves with them - unite ourselves with them in the enjoyment of their juices, and so on, for they are our brothers. They are our brothers who have been metamorphosed down into the domain of the earth, who have become fettered to the earthly, who have won another existence.

And in their turn the spirits who ensoul the plants can look up to the butterflies and say: These are the heavenly relatives of the plant on earth.

You see, one must really say that understanding of the world cannot come about through abstractions, for abstractions do not attain to understanding. Cosmic activity is indeed the greatest of artists. The cosmos fashions everything according to laws which bring the deepest satisfaction to the artistic sense. And no one can understand the butterfly which has sunk down into the earth, unless he metamorphoses abstract thoughts in an artistic sense. No one can understand how that which is contained in the flower of a plant has been raised up into the air by the light and by cosmic forces to be the butterfly, unless once again he can bring abstract thoughts into artistic movement. Nevertheless, there always remains something immensely

uplifting when we turn our minds to the deep inward connection between the things and beings of nature.

It is a unique experience to see an insect poised on a plant and at the same time to see how astrality holds sway above the blossom. Here the plant is striving away from the earthly. The plant's longing for the heavenly holds sway above the iridescent petals of the flower. The plant cannot of itself satisfy this longing. Thus there radiates towards it from the cosmos what is of the nature of the butterfly. In beholding this the plant realizes the satisfaction of its own desires. And this is the wonderful relationship existing in the environment of the earth, namely, that the longings of the plant world are assuaged in looking up to the insects, in particular the world of the butterflies. What the blossoming flower longs for, as it radiates its colour out into world space, becomes for it something like known fulfilment when the butterfly approaches it with its shimmer of colours. Longing that makes warmth radiate outwards, satisfaction streaming in from the heavens - this is the interplay between the world of the flowering plants and the world of the butterflies. This is what we should see in the environment of the earth.

R. Steiner. Karmic Relationships. Vol. VII (1973), p. 122-123.

Illness in the lower body and more towards its periphery will have to be healed with what appeared at a later stage in the evolution of Nature, namely, blossoms, flowering plants or also with later formations in the mineral kingdom. Whatever is a late development in man must be healed with what is also a late development in Nature. In the head, too, there are, of course, organs which are comparatively late formations. When the Earth was still recapitulating the Moon-evolution and Sun-evolution, man existed without his present eyes, in general without sense-organs, although the first rudiments of them were already present during the Saturn-evolution. As they are today, mirroring the outer world inwardly, they are a relatively late product of evolution, appearing at the same time, for instance, as silicious substance in its present form on the Earth. Silica as it is today is a late product in the evolution of the world of Nature, although its rudiments were laid in the far, far past.

Hence when silicic acid is correctly administered as a remedy it acts upon everything belonging to the nerves-and-senses system, especially the senses, through the whole organism.

In their present form the senses developed in an age when rocks containing silica also appeared in their present form. In the first incarnation which can still be called an incarnation, when with our whole bodily make-up we were a more integral part of Nature, we lived simply in accordance with our karma, an existence shared with different forms of plant and animal life, the successors of which are here today. The mushrooms and the roots of plants are unlike what they were in that early epoch but in a certain way what is present today in the mushrooms, lichens, algae and roots of plants is reminiscent of the conditions prevailing in our first definite incarnation. In the blossoms and flowering plants of today and in minerals at a corresponding stage ... (a gap in the transcript here).

R. Steiner. The Evolution of Earth and Man and Influence of the Stars (1987), p. 161-162.

Question: In one of your last lectures you said that the scents of flowers are related to the planets. Does this also apply to the colors of flowers and colors of stones?

Dr. Steiner: I will repeat very briefly what I said. It was also in answer to a question that had been asked. I said that flowers, and also other substances of the earth, have scent — something in them that exercises a corresponding influence upon man's organ of smell. I said that this is connected with the planets, that the plants and, similarly, certain substances, are "big noses," noses that perceive the effects coming from the planets. The planets have an influence upon life in its finer, more delicate forms — here, once again, we must think of the finer forms of life. And it can be said that the plants really do come into being out of the scent of the universe, but this scent is so rarefied, so delicate, that we human beings with our coarse noses do not smell it.

But I reminded you that there can be a sense of smell quite different from that possessed by man. You need think only of police dogs. A thief has stolen something and the police dog is taken to the spot where the theft has been committed; it is conveyed to him in some way that a thief has been there and he picks up the scent; then he leads the police on the trail and the thief is often found. Police dogs are used in this way. All kinds of interesting things would come to light if one were to study how scents that are quite imperceptible to a human being are perceptible to a dog.

People have not always realized that dogs have such keen noses. If they had, dogs would have been used earlier to assist the police. It is only rather recently that this has been discovered. Likewise, people today still have no conception of what indescribably delicate noses are possessed by the plants. As a matter of fact, the entire plant is a nose; it takes in the scent of the universe, and if its structure is such that it gives back this cosmic aroma in the way that an echo gives back a sound, it becomes a fragrant plant. So we can say: The scents of flowers, of plants in general, and also other scents on the earth, do indeed relate to the planetary system.

It has been asked whether this also applies to the colors of plants and flowers. As I said, the plant takes shape out of the aroma of the universe and throughout the year it is exposed to the sun. While the form of the plant is shaped by the planets out of the cosmic fragrance, its color is due to the sun and also to some extent to the moon. The scent and the color of plants do not, therefore, come from the same source; the scent comes from the planets, the color from the sun and moon. Things don't always have to come from the same source; just as one has a father and a mother, so the plant has its scent from the planets and its colors from the sun and moon.

You can see from the following that the colors of plants are connected with the sun and moon. If you take plants that have beautiful green leaves and put them in the cellar, they become white, they lose every trace of color because the sun has not been shining on them. They retain their structure, their form, because the cosmic fragrance penetrates everywhere, but they don't keep their color because no sunlight is reaching them. The colors of the plants, therefore, undeniably come from the sun and, as I have said, also from the moon, only this is more difficult to

determine. Experiments would have to be made and could be made, by exposing plants in various ways to moonlight; then one would certainly discover it.

R. Steiner. Colour (2001), p. 45-47, 161.

Green is not the only colour usually seen in a plant which, as we know, in the course of its metamorphosis takes on other colours; it has yellow, blue or white flowers, or red flowers or fruit, as in the melon for instance, which is transformed from green into yellow. Quite a superficial observation shows us what happens when the plant takes on a colour other than green. When this happens, you can quite easily observe that the appearance of these other colours is connected with the sun, with direct sunlight. Just consider how plants hide themselves and curl up if they cannot hold up their flowers to the sunlight. There is a connection, if only a superficial one, between the sun and certain parts of the plant not being coloured green. The sun, as it were, metamorphoses the green; it encroaches upon the green and transforms it.

Here we have to ask ourselves: what kind of heavenly body has the strongest effect on earth, working in an opposite way to the sun, to produce in the plant what the sunlight later metamorphoses, negates as it were, and transforms into other colours? What in fact causes green to arise within the plant kingdom?

We will be led to that heavenly body which appears as the polar opposite of the sun: the moon. Spiritual science can establish — I can only touch upon these things today — the connection between the green of the plant and the moon and also between the other colours and the sun, by contrasting the properties of moonlight as opposed to sunlight, and especially by the way that moonlight works within sun-darkness. Thus in the plant we have an interplay of sun and moon influences. But at the same time we have an explanation of why green becomes an image and does not appear luminous in the plant as the other colours do. The other colours in the plant have a shining, lustre quality. If you observe the colours of flowers with the right kind of feeling you will see that they shine at you. Compare them with green: it is ‘fixed’ to the plant. You will see here nothing other than a copy of what you perceive in the cosmos. Sunlight shines; moonlight is the image of the sun light. In the same way the image of light, colour as image, appears in the green of the plant. It is through the sun that lustre colours appear in the plant; the image colour, as something ‘fixed’, appears in green.

[W]hen we look at a plant in such a way that we know that cosmic forces are at work and that sun and moon forces interplay to produce colour in the plant, we have the basic elements for understanding how, with plants at least, colour is fixed in an object and becomes material. It is due to image, and not lustre, influences from the cosmos that colour becomes material. In the plant, green has become an image because the moon has been separated from the earth during the course of Earth evolution. In the separation of moon and earth we must seek the real origin of green in the plant kingdom. The plant is no longer exposed to moon-forces coming from within the earth but receives its image character from the cosmos.

To paint a tree green, to paint a tree — it is almost stupid, isn't it, to talk about painting a tree — to paint a tree and use green paint is not art. Because whatever you achieve in copying nature, it will not have as much beauty and substance as nature itself. Nature is always more alive. We have no cause to imitate nature around us. Nor does a real artist do that. A real artist uses the object, say, to paint the sun shining on it, or to observe a particular colour reflex in his environment, in order to catch the interplay of light and dark. The object one paints is merely that which gives one the opportunity to do this. People never paint the flower in front of their window; they paint the light shining in through the window as seen through the flower. People actually paint the coloured light of the sun. They capture that. And the flower is just the occasion for capturing that light.

**R. Steiner. Life of the Human Soul and its Relation to World
Evolution (2016), p. 56-57, 109-110.**

[N]ow we can make another discovery. Let's take any sense, say the eye, vision. Firstly you look around you physically. Let's overlook the fact that we are usually in artificial light. We could easily demonstrate that this too has something to do with sunlight, albeit at one remove, but that does not concern us for now. Let us merely picture a beautiful morning in the country, outside in the sunshine instead of under this dreadful electric light. Let's imagine it — occasionally it happens! We see the sun everywhere, since the sun is not just a disc or sphere but radiates, and when its rays fall on a flower, they are reflected towards us. It is the sun that penetrates our eyes, and enables us to perceive the flower and form a picture, an idea of the flower. Everywhere, on every object, it is the sun that enables us to do so. But that is easy for everyone to understand — that we see the illumined objects around us by virtue of the sun, which, via our head, conveys to us all that we know in outward, physical terms about these objects. But what the eye perceives is not only the sun.

There is a deeper truth to the lines in *Faust* about 'The sun in ancient guise competing with brother spheres in rival song.' Such universal harmony does exist, and the aspect of this universal harmony manifesting in our atmosphere is also a sun reflection, so that in a sense all musical resonance also reaches us circuitously from solar nature. Everything we perceive in the outer physical world originates with solar powers: warmth, tone, everything reaches us from the sun, though not so directly as light.

Let us imagine a plant — green, with red flowers. That is what your eye tells you, and then your powers of reason reflect on it. That is how our everyday consciousness lives. We develop a different kind of awareness when we sunder our thinking from the breath and connect it instead with what is outside us. This thinking learns to resonate with the plant as it grows, as its flower

opens, and as — in a rose for instance — it passes from green into red. It resonates out into the spiritual reality that underlies all the diverse things of the external world.

R. Steiner. Learning to See into the Spiritual World (1990), p. 75-78.

I want to mention one other subject which arises from the questions I received from you. Many of you have read that potatoes were introduced into Europe at a particular time in history, for the people of Europe were not always potato-eaters. In fact a rather interesting story is related to this. There is an encyclopedia, in which I myself collaborated — but not in the article in question, for in this there is something comical, namely: According to the article, it is universally said that Drake introduced the potato into Europe. There is in Offenburg, which is now occupied by the French, a Drake monument. I looked it up in a conversational dictionary, and there it stood: The monument was erected to Drake in Offenburg, for it is rumored (wrongly) that he brought potatoes to Europe. One can say if anything is even attributed to a person, people in Europe will build a monument to him. But this is not what I wanted to talk about; rather, that at a particular time potatoes were introduced.

Let us now take a closer look at potatoes. When we eat potatoes, we are not really eating a root; the roots are the little things dangling off the potatoes, and these are removed along with the peel when one cleans them. The potato itself is actually a thickened stem. An ordinary plant grows and it has a root and then a stem — and if the stem becomes thicker, as is the case with the potato, there arises a kind of knot or tuber, which is really a thickened stem. You should remember this when you are eating a potato — you are eating a thickened stem. We should ask, what does it mean for us that with the introduction of the potato into Europe we learned to like the taste of thickened stems?

If you look at a whole plant, it is made up of root, stem, leaves, and flower. (This is drawn.) A plant is something quite remarkable. The roots down there become very similar to the soil insofar as they contain many salts; and the flower up here is very similar to the warm air, so that it is as if through the heat of the sun the flower were continuously cooked. As a result the flower contains many oils and fats. In other words, when we look at the plant, we find roots at the bottom, and the root is rich in salts, whereas the flower is rich in oils. Therefore, when we eat roots we introduce many salts into our intestines; these salts in turn make their way to the brain and stimulate it. If for instance someone suffers not from migraine headaches but from ordinary headaches — the type that seem to fill your head — it is very good for that person to eat roots. One can see how a certain salty sharpness is present in those roots, and this can already be established by the taste. If you eat a flower, the plant is in fact already half-cooked; the oils are already on the outside and this is what primarily fattens the stomach and the intestines and, in turn, affects the lower body. These are the kinds of things doctors have to take into account when they prescribe teas. There will never be a very strong influence on the head if someone cooks flowers in the tea; on the other hand, if you cook the roots, they will have a strong effect on the sick person's head.

So you can see that when considering the human being we pass from the stomach to the head or from the bottom to the top. With plants, we must do the opposite. To find the correspondence, we must proceed from the flower to the root. Remember — this may enlighten you as to the meaning of potatoes — that the root is connected with the head. The potato has a tuber, which is something that is not entirely turned into a root. Thus when you eat potatoes you are eating, by preference, plants that have not quite become roots. If one limits oneself to the eating of potatoes — too many potatoes — it is not possible to pay a proper amount of attention to the brain, so that all these potatoes stay down below in the digestive tract.

This is why we say that potato-eaters neglect their heads or brains. You will only perceive this connection if you are an adept of spiritual science. But one can say that ever since the habit of eating potatoes has become firmly established, the head has become less capable, and it is the tongue and throat that have been particularly stimulated. This is why the potato is particularly appreciated as a side dish for people, because it stimulates the body below the head, leaving the head itself unburdened.

If, on the other hand, we eat red beets, we develop a great craving for the activity of thinking. This happens unconsciously. Potatoes only make one crave the next meal. Potatoes make one hungry because they don't quite reach the head. In contrast to this, the red beet satisfies so quickly because it actually reaches all the way to the head, and that is the most important thing. Of course it is very unpleasant for people to disturb their ease with thinking. Therefore they will very often eat potatoes more readily than red beets just for this reason: that to do so does not stimulate their thinking. They become lazy and their thinking becomes lazy. The red beet on the other hand stimulates thinking — it is a true root — insofar as it actually makes one want to think, and anyone who does not want to think does not like red beets. If you need to have your thinking stimulated, the salty stimulation of radishes, for instance, might be necessary. Anyone who is not quick in the head will get good results eating radishes — because the addition of radishes to his meals will set his thoughts into movement.

R. Steiner. Music: Mystery, Art and the Human Being (2016),

p. 18-22.

And now we come once more to an important matter. Just as light was created at the same time as air, so, as air condensed into water, something similar arose. In the same way that air and light are related, water relates to sound, tone. Tone can of course pass through air and initiates vibrations there, thus becoming audible. Yet tone as such emerged on earth alongside the creation of water. And just as light effects stream through the air, so all the water to which air condensed - the earth now of course consisting of heat, air, and water - bore tone vibrating everywhere through it. In the regions where our earth became most watery it was also most pervaded by all possible tonal harmonies streaming into it; and the result of these actions of tone in the water is something very, very important. Naturally you have to imagine that these ancient,

primal waters, these waters of the earth, contained all the substances that were later deposited as metals, minerals and so on. It is really especially interesting to turn our inner gaze to these ancient times and to see how the most diverse forms emerge from fluid through the form-creating tone at work in water. Tone creates forms and shapes in water. This was a really wonderful period of our earth's evolution. On a large scale what happened then resembles what occurs if you strew fine sand on a metal plate and then stroke it with a violin bow. The Chladni patterns appear, very regular patterns as you know. Thus, through the music streaming from cosmic space, the most varied forms and figures appeared; and the substances that were dissolved in the fluid hearkened to this cosmic music and were shaped and ordered accordingly. This dance of substances to the tune of cosmic music gave rise, most importantly, to protein, to protoplasm, as the foundation of all life. However much materialists ponder the mechanical actions that they think gave rise to protein from oxygen, nitrogen, carbon and so on, in fact it formed from cosmic matter through the harmonies of cosmic music. Living substances are patterned in accordance with this cosmic music. Around and especially within the subtle structures I spoke of, there formed the proteinous substance, the protoplasm, that pervades everything. Lengthwise along the lines I described to you as lines of heat or warmth runs the fluid that has coagulated to protein through the action of cosmic tone, and this gradually passes into blood formation. In the nerve lines this coagulated fluid forms protein. And the protein first developed as a kind of envelope, a cartilaginous calcium substance you might say, to form a protection against the outside world. All this did really develop in accordance with the dance of substances as governed by the music of the spheres.

Now the time came when the sun emerged from the earth again, or crystallized from it. The finest substances and beings formed an autonomous heavenly body so that our earth began to orbit the sun. With the emergence of the finest materials a densification of the remaining matter occurred. On the one hand the fine, luminous sun body emerged and, on the other, the matter of the earth became much denser and entered into a fluid condition, but denser than our ocean water is today, since it contained everything that is now solid. As water or fluid develops, a new element appears. The music of the spheres, the cosmic tones, pervade the earth to the degree that water appears there. This was not music as we know it now, which is conveyed through the air. The evolution of the earth was governed by this cosmic music.

Separate substances solidified from the great undifferentiated breadth of matter, beginning to dance under the influence of this cosmic music. Matter diversified into all the organic substances, for instance protein. Thus organic matter, protoplasm arose under the influence of cosmic music, similar to the way the Chladni patterns appear today.

When, in esoteric development, you rise to a plant consciousness permeated by the bright day consciousness of your I, then you reach the level of Inspiration, of inspired consciousness. This inspired consciousness does not only work pictorially. When what flows from things enters another being, this consciousness cannot be compared with picture consciousness but is a sounding, resounding one. Here we enter a spiritual world of tones; it is a form of consciousness which Pythagoras referred to as the harmony of the spheres. The whole world expresses its nature through tone; and when we fall asleep at night, when our astral body departs with the I

from our physical and etheric body, the harmonies and melodies of cosmic music penetrate this astral body, and it is then embedded in its own true spiritual existence, acquiring from the music of the spheres the capacity to replace the powers that have been exhausted. During the night we plunge down into the music of the spheres, and because its tones resound through us, we feel renewed and strengthened in the morning. When we become aware of this, we are in Inspiration consciousness and are able to perceive all that exists within our solar system. Whereas our ordinary thinking capacity grasps only earthly things, Imagination enables us to enter into correspondence with the beings of the various planets, and into connection with the whole solar system when we attain Inspiration. In certain circles people have always known this. Goethe, who was an unconscious initiate, knew it. And this is why, in the Prologue of *Faust*, which takes place in heaven, the world of spirit, the angels say these words:

The sun in ancient guise competing
With brother spheres in rival song ...

We see here that he knows that all mysteries of the solar system come to expression in tones, and that someone who raises himself to the level of Inspiration can learn of these mysteries. That Goethe does not write this arbitrarily can be seen in the fact that he reiterates it in Part 2 of *Faust*, when he raises his protagonist into the world of spirit:

Spirit ears now hear sound forth
The day once more in its rebirth ...

'Spirit ears' are those of the clairvoyant or clairaudient, who perceive the solar system's harmony of the spheres. And if you were able to actually perceive the solar forces that stream down upon physical plants as they grow from the earth, these plant bodies with their roots and leaves, culminating above in flowering organs where the astral body suffuses them, and into which the spiritual powers of the sun penetrate - if you could perceive these powers entering mysteriously through the blossom, you would hear them as the spiritual music of the spheres, which only the ears of spirit can hear. Spiritual tones everywhere penetrate plant blossoms; and the secret of plant growth is that in every single flower one finds an expression of tones that form it, giving the fruit its distinct character. The plant assimilates the sun's tones, which indwell it as spirit. You may know that one can use tone to create forms in the material world. In the Chladni experiments tone forms are created on a metal plate on which fine sand is strewn - the tone orders and patterns the sand, which gives visual expression to the nature of the tone that has formed it. And just as the physical tone is here in a sense captured by the sand, so flowers and fruit capture and assimilate the sun's spiritual tone. It is hidden in the seed, mysteriously and secretly; and when a new plant grows from it, then the captured, assimilated sun tone is what conjures the form of the plant once more. Clairvoyant consciousness looks upon the plant world surrounding us and sees in the tapestry of flowers covering the earth a reflection of the sun's

tones. And so what Goethe says is true: the sun resounds. But it is also true to say that these sun tones stream down and are absorbed by the plants, then reappear again when a new plant emerges from a seed. In the forms of plants, the sun's tones reverberate back into space as a reflection of the music of the spheres. And so we see how world and earth, how the fixed stars and the planets, are inwardly connected. We learn not only to see what exists in our physical surroundings, but we also gain an inkling of how someone who partakes of Inspiration rises sunwards.

R. Steiner. The Four Seasons and the Archangels (1996), p. 3-6.

Let us recall how in many of our studies here we have surveyed the course of the year. One first observes it quite externally: when spring comes one sees nature sprouting and budding; one watches the plants grow and come to flower and sees how life everywhere springs up out of the soil. All this is enhanced as summer draws on; in summer it rises to its highest level. And then, when autumn comes, it withers and fades away; and when winter comes it dies into the bosom of the earth.

This cycle of the year - which in earlier times, when a more instinctive consciousness prevailed, was celebrated with festivals - has another aspect, also mentioned here. During winter the earth is united with the elemental spirits. They withdraw into the interior of the earth and live there among the plant roots preparing for new growth, and among the other nature beings who spend the winter there. Then, when spring comes, the earth breathes out, as it were, its elemental being. The elemental spirits rise up as though from a tomb and ascend into the atmosphere. During winter they conformed to the inner order of the earth, but now, as spring advances and especially when summer comes on, they open themselves to the order that is imposed upon them by the stars and the movements of the stars. When midsummer has come then out there in the periphery of the earth life surges among the elemental beings who had spent the winter quietly and calmly under the earth's mantle of snow. In the swirling and whirling of their dance they are governed by the reciprocal laws of planetary movement, by the pattern of the fixed stars, and so on. When autumn comes, they turn towards the earth. As they approach the earth, they become subject more and more to the laws of the earth, so that in winter they may be breathed in again by the earth, once more to rest there in tranquillity.

Anyone who can thus experience the cycle of the year feels that his whole human life is wonderfully enriched. Today - and for some time past - a person normally experiences, though but dimly, half-consciously, only the physical-etheric processes of the body taking place within his skin. He experiences his breathing, the circulation of his blood. Everything that takes its course outside, in wind and weather during the year, all that lives in the sprouting of the seed forces, the fruiting of the earth forces, the brilliance of the sun forces - all this is no less significant and decisive for the whole life of a human being, even though he is not conscious of it, than the breathing and blood circulation which goes on inside his skin.

As the sun rises over any region of the earth, we share in what it brings out by means of its warmth and light. And when a person accepts anthroposophy in the right sense, not reading it like a sensational novel but so that what it imparts fills his mind and heart, then he gradually educates himself, heart and soul, to experience all that goes on outside in the course of the year. Just as during a day we experience early freshness, readiness to work in the morning, then the onset of hunger, and weariness in the evening, and just as we can sense the inner life and activity of the forces and substances within our skin, so, by taking to heart anthroposophical ideas - entirely different from the usual descriptions of sense-perceptible events - we can prepare our souls to become open to the activities that go on outside in the course of the year. We can deepen more and more this empathy with sympathetic participation in the cycle of the year, and we can enrich it so that we do not live so cut off within our skin, letting the outer world pass us by. But on the contrary, we can enrich our experience, so that we feel ourselves living in the blossoming of every flower, in the breaking open of the buds, in that wonderful secret of the morning, in the glistening of dewdrops in the rays of the sun. In these ways we can get beyond that dull, conventional way of reacting to the outer world merely by putting on our overcoat in winter and lighter clothes in summer and taking an umbrella when it rains. When we overcome a prosaic attitude and learn to experience the interweaving activities, the ebb and flow, of nature - only then do we really understand the cycle of the year.

Then, when spring passes over the earth and summer is drawing near, we will be heart and soul in the midst of it; we will perceive how the sprouting and budding life of nature unfolds, how the elemental spirits whirr and whirl in a pattern laid down for them by planetary movements. And then, in the time of high summer, we too will widen our experience to share in the life of the cosmos. Certainly this damps down our own inner life, but at the same time our summer experiences lead us out - in a cosmic waking sleep, one might say - to enter into the activities of the planets.

Today, generally speaking, people feel they can enter into the life of nature only in the season of growth - of germination and budding, flowering and fruiting. Even if they cannot fully experience all this, they have more sympathetic awareness of it than of the autumn season of fading and withering. But in truth we deserve to rejoice in the season of spring growth only if we can enter also into the time when summer wanes and autumn approaches, the season of sinking down and dying that comes with winter. And if at midsummer we rise inwardly, in a cosmic waking sleep, with the elemental beings to the regions where planetary activity in the outer world can be inwardly experienced, then we ought also to sink ourselves down under the frost and snow mantle of winter, so that we enter into the secrets of the womb of the earth during midwinter; and we ought to participate in the fading and dying off of nature when autumn begins.

R. Steiner. Mystery Knowledge and Mystery Centres (1973),

p. 14-16, 39, 155-157.

With ordinary-level consciousness we are too close to ourselves in our actual experience to be able to make it into anything valuable. We must be able to stand at a distance from ourselves. Now a man is farther away from himself when he is asleep than when he is awake, for during sleep his astral body and ego are outside his physical and etheric bodies. You will be able to approach this astral body, which as I have said, is outside the physical body during sleep, if you summon up some past experience as vividly as possible into the present. You will probably not believe what I am telling you because you will be reluctant to attribute such significance to something as comparatively trivial as the awakening of past experiences by looking at an old dress. But just put it to the test, and if you succeed in conjuring up some past experience into the present so vividly that you are wholly engrossed in it and can be entirely oblivious of the present, you will find that you are drawing near to your astral body as it is in sleep.

But you will be mistaken if you think that all you have to do is to look right or left, and that you will see a shadowy form that is your astral body; that is not how things work. You must pay attention to what actually happens, which may for instance be that after such experiences you see the dawn and the sunrise very differently from hitherto. On this path you will gradually begin to feel the warmth of the dawn as something prophetic, having a kind of natural prophetic power. You will begin to feel the dawn as something spiritually forceful and that there is some connection between that power and an inner sense within yourself; and although at first you may regard it as an illusion, you will eventually feel that there is some relationship between the dawn and your own being. Through the experience I have described you will gradually come to feel, as you look at the dawn: this dawn does not leave me alone. There is an inner connection between my own being and the dawn. The dawn is a quality of my own soul. At this moment I am myself the dawn. If you have been able to unite yourself with the dawn in such a way that you experience its coloured radiance out of which the sun rises, in your very heart as a living feeling - then you will also feel that you are actually travelling across the heavens with the sun, that as I put it just now, the sun will not leave you alone, that it is not a case of you being here and the sun there, but that in a sense your existence stretches right up to that of the sun - in fact that your journey through the day in company with the light.

If you develop this feeling, not out of thinking but out of memory in the way I described, if you can develop these experiences out of the power of memory, then you will find that things which you have perceived with your physical senses begin to look different, enabling spirit-and-soul to become manifest; when you have acquired the feeling of travelling with the sun, all the flowers in the field will look different to you. The flowers do not merely display the red or yellow colours on their surface; they begin to speak spiritually to your soul. The flower becomes transparent; a spiritual element in the flower begins to stir and the blossoming becomes a sort of speaking. In this way you are actually uniting your soul with external Nature. In this way you get the impression that there is something behind this Nature, that the light with which you are

connected is borne by spiritual Beings. And in those spiritual Beings you gradually recognise the characteristics described by Anthroposophy.

During a walk you may see by the wayside blue or yellow flowers, green grass, gleaming ears of corn, and say to them: When I pass by you during the day, I see you only from outside. But while I sleep, I shall sink my memories into your own spiritual core of being. While I sleep you receive and harbour the memories into which I have transformed the experiences I had in life. - There is perhaps no more beautiful feeling for Nature than to have to a rose-tree not merely an external relation but to realise that you love it because a rose-tree harbours the first memories of childhood. Space plays no part at all. However far away the rose-tree may be, during sleep we find the way to it. The reason why people love roses - only they do not know it - is that roses receive and harbour the very first memories of childhood.

When we were children, the love shown us by other human beings made us happy. We may have forgotten all about it, but it remains within our soul, and during our sleep at night the rose-tree receives into and harbours within itself the memory we have ourselves forgotten. We are more closely united than we realise with the world of outer Nature, that is to say with the spirit reigning there. Memory of our earliest childhood is particularly remarkable in connection with sleep because up to the time of the change of teeth, up to about the seventh year, it is only the element of soul that is received and harboured during sleep. It is a fact in our life as human beings that the inner, spiritual core of Nature harbours the element of soul belonging to our childhood. There is, of course, another aspect: the element of soul we developed in childhood when, for example, we may have been cruel, that too remains in us; the thistles harbour it! All this is said by way of analogy, but it points to a significant reality.

And when with this inner experience of the contrast between the warm air and the damp cold, the pupil afterwards approached Nature, he was able, through further experience of the things and processes of Nature, to look far into the real being of the whole world. Today, the chemist examines hydrogen and attributes to it certain properties. Then he observes the spaces of the worlds, finds there something which reveals the same properties as hydrogen does in the laboratory and draws the conclusion that hydrogen is present also out there in the far spaces. Such a method of instruction would have seemed sheer nonsense in Aristotle's time. One went to work then in quite a different way.

When the inner experience of the pupil had been deepened in the way I have indicated, the teacher led him to observe what is living in the flower as it raises itself upwards and opens out into the far spaces; he had now to pass on to knowledge of the plants. 'Look into the opening petals of the flower,' he was told, 'and observe the impression it makes upon you as it rays out into the World.'

And when the pupil, whose feelings had been deepened in the way I have explained, gazed out over the opening blossoms of the plants, an inward knowledge, an inward illumination, dawned within him. The flowers became for him the proclaimers upon Earth of the secrets of the Cosmos: they spoke to him of the far spaces of the Worlds. And with deep earnestness, though always only in the way of gentle hints and intimations, the teacher then led the pupil to find for himself the secret that streams from the wide spaces of the World into the being of the flower. The teacher put the question: 'What do you really perceive when you look at the opening flower, when you gaze at the opening petals and see how the stamens push forth and out to meet you? What do you then really perceive?' And by-and-by the pupil became able to say in answer: 'The plants tell me that the heavy, cold Earth has compelled them to take up their abode on the Earth; they say that they really do not come from the Earth at all, but have only been placed there and made fast in the Earth. In truth they are water-born, and in a previous condition of Earth existence' - it is the condition I have described in *Occult Science* as the Old Moon condition of the Earth - 'they enjoyed their true and genuine existence as water-born beings in all their livingness.'

The pupil was led to perceive that in the flowers he can see a reflection of the secrets and Mysteries of the Moon which has gone out of the Earth and still preserves something of the old, pre-Earthly Moon condition. For the flowers did not tell him the same thing every night! What the flowers said when the Moon stood before Leo was different from what they said when the Moon stood before Virgo or before Scorpio. The flowers on the Earth told what the Moon experienced as she passed round the whole circle of the Zodiac. The secrets and mysteries of the World-All - it was of these that the flowers on Earth told. It was really so that through what came to the pupil in this way he was able to say out of the depth of his heart:

I look into the flowers.
 They reveal to me their kinship with the Moon.
 Captives on Earth are they,
 For they are Water-born.

The pupil was able to have this feeling, because he had previously experienced the impression made on him by the cold, chilling water. That experience enabled him now to come to this knowledge about the flowers.

**R. Steiner. Man in the Past, the Presens and the Future (1982),
p. 26-30, 33, 34-35, 38-39.**

As the Druid penetrated into the relationship between what he saw on Earth and what streamed down from the heavens, he saw the whole processes of plant-growth and vegetation quite differently from the way in which they appear to our abstract thought of later days. If we can properly grasp the true quality of the sun, on the one hand the physical rays which enter our eyes, on the other the shadow with its various gradations, we come to realise that the spiritual essence of the sun lives on in the various grades of shadow. The shadow prevents only the physical rays of the sun from reaching other bodies, whereas the spiritual penetrates further. In the cromlechs which I have described to you, a small dark place is separated off. But it is only the physical sunlight which cannot penetrate there; its activity penetrates, and the Druid, as gradually through this activity became to be permeated by the secret forces of cosmic existence, entered into the secrets of the world. Thus, for instance, the actions of the sun on plants were revealed to him; he could see that a particular kind of plant-life flourishes at a particular time when the sun is active in a particular way. He could trace the spiritual activity of the sun and see how it pours and streams into flower, leaf, and root; and it was the same with animals. And while he was thus able inwardly to recognise the activity of the sun, he also began to see how other activities from the Cosmos, for example, those of the moon, pour into it. He could see that the effect of the sun was to promote sprouting growth, with an upward tendency, and so he knew that if a plant as it grows out from the soil were exposed only to the sun, it would grow unendingly. The sun brings forth burgeoning, luxuriant life. If this life is checked and reduced to form, if leaves, bloom, seed and fruit assume a specific shape, if what strives towards the infinite is variously limited — all this has its origin in the activities of the moon. And these are to be found not only in the reflected light of the sun, for the moon reflects all influences, and these in their turn can be seen in the growth of the plant out of its root, and also in what lives in the propagation of animals, and so on.

Let us take a particular instance. The Druid observed the growing plant; he observed in a more living way what, later on, Goethe observed more abstractly in his idea of metamorphosis. The Druid saw the downward streaming sun-forces, but he saw also the reflected sun-forces in everything that gives the plant its form. In his natural science he saw the combined activity of sun and moon in every single plant and animal. He could perceive the action of sun and moon on the root, which is wholly within the Earth and has the function of absorbing the salts of the Earth in a particular way. He could see that the action of sun and moon was quite different on the leaf, which wrests itself out of the Earth and presses forward into the air. Again, he saw a different action on the flower, which pushes onwards to the light of the sun. He could see as a unity the activity of the sun and moon, mediated by the activity of the Earth; to him, plant-growth and the being of the animal were also a unity.

Of course, his life there was just what we experienced, with the winds raging around, which can reveal so much about the structure of the region, with the peculiar weather conditions which

manifest themselves so vividly in that district. Thus, for example, at the beginning of one of our Eurythmy performances, which took place in a wooden hail, the audience sat with their umbrellas up, because just before the performance there had been a heavy downpour which was still going on when the performance began. The curtains were quite wet! This intimate association with Nature which can still be experienced today was of course also experienced by the Druids. Nature there is not so hard; she almost embraces one. It really is a delightful experience. I might almost say that one is drawn on and accompanied by the activity of Nature; one seems to be part of it. I even met people who maintained that one need not really eat there, that one can be fed by this very activity of Nature.

The Druid, then, lived with his Sun-Initiation within this activity of Nature, and he saw as the unity I have described the sun and moon mediated through the activity of the Earth, the growth of the plant, the growth of root, leaf, and flower; and all this not in the form of abstract laws as today, but of living elemental beings. Different elemental beings of sun and moon were active in the root, in the leaf and in the flower. He could also pursue in the wider realms of Nature what is so beneficially differentiated in root, leaf, and flower.

Through his imaginative gifts he could see the small elemental beings restricted to narrow limits in the root, and he knew that what lives in beneficial form in the root can free itself and expand to the gigantic. Thus he saw the large-scale activities of Nature as the small activities of the plant raised to a gigantic power. Just as he had spoken of the elemental beings in the root of the plant, he could also speak of these root-beings as having expanded in a cosmically irregular way and manifesting in the formation of frost, dew and hail. On the one hand he spoke of the root-beings who were beneficially active, and of the giants of frost and ice which are these root-beings grown to gigantic size.

Again, he spoke of the elemental activities in the leaf of the plant, which permeate themselves with the forces of the air; he traced them into the distant spaces of Nature, and he then saw that, if what lives in the leaf frees itself and strives beyond its proper limits into the distances of Nature, it manifests in the surging of winds. The giants of wind and storm are the elemental beings of the plant grown beyond their size. And the element which is distilled in the flower and meets the sun light and produces in the flower the etheric oils with their phosphoric quality — if that is freed, it manifests itself as the giants of fire, among whom, for instance, Loki belongs. In this science of sun and moon, therefore, the Druid saw as a unity both that which lives in the narrowly restricted space of the plant and that which frees itself and lives in wind and weather.

But he went further. He said to himself: When that which lives in root, leaf, and flower is contained within the desirable limits set by the good gods, normal plant-growth results. If it appears in hoar frost, that is the work of opposing beings: for the elemental beings, growing into powers of opposition, create the harmful, devastating aspects of Nature. Now as a human being I can make use of the devastating activities of the beings who are the opponents of the gods; I can gather the hoar frost in appropriate ways, and the products of the storm and whatever is caught up in the surging of wind and rain. I can make use of the giant forces for my own purposes by burning the plant, for instance, and reducing it to ashes, to charcoal and so on. I can take these forces, and by using frost, hail and rain and other such things, or what the giants of fire control

— things which are the expression of forces that have grown to harmful vastness — I can protect the normal growth of the plant. I can rob these giants of all this and can treat normal plants with it, and by applying these forces of the opposing powers I can make healing medicines out of the good elemental forces which have remained within their proper limits. And this was in fact one of the ways of making medicines out of plants, by employing frost and snow and ice and by the use of burning and calcination. The Druid felt it to be his work to take whatever was harmful from the opposing giant powers and restore it to the service of the good gods. We can trace these things in many different ways.

Natural forces in our sense were quite unknown to an older humanity. In the times I spoke of yesterday, people did not talk of meteorological laws controlling wind and weather, but, as I explained, of beings seen pictorially, of elemental spirits hovering around the plants, or of gigantic spiritual beings active in wind and weather, frost and hail, storm and thunder. All this was living in their observation of Nature without any logical deductions. Everything they saw, including the phenomena of Nature, was a living, weaving, surging of spiritual beings. The whole basis of their inner condition of soul was quite different from ours.

In a sense, men were more self-enclosed, but in a way very different from what we know today; this living in themselves was at the same time a consciousness full of living dream-pictures which led them out into the distant spaces of the Cosmos. Men saw pictures, though not in the way in which today we have thoughts, when the things are outside. While they had these experiences of the giants of frost, storm and fire, of the spirits of root, leaf and flower, they felt themselves united with plant, root, leaf, flower, with thunder and with lightning. Because they experienced the spiritual and spiritual pictures in their own being, they did not therefore feel their soul-life separated from external Nature.

To demand that one should believe in the spirit would have been absurd for this older humanity just as it is absurd to ask modern men to believe in mountains; you don't believe in them, you see them. In those days men saw their pre-natal spiritual life, though of course they saw it with the eyes of the soul. But there came a time when they indeed saw spiritually this inner being of man as the outcome of pre-earthly existence, while external Nature surrounding them became increasingly a sort of riddle. Pure sense-perception made its way gradually into human evolution. In very early times, such as those of ancient India, as I described them in *Occult Science*, men still saw everything, Nature included, spiritually. It marked a step forward when the vision of the spiritual remained inward, but Nature, if I may put it so, became gradually de-spiritualised. While man still felt inwardly that he was spirit born of spirit, when he looked outward to the blossoming of Nature, to the clouds from which the lightning flashes, to the wind and weather, to the delicate, wonderfully formed crystals, to hill and dale, a mood came over him which can be

traced by Spiritual Science over long periods, especially over the times when men were civilised. They might have expressed it as follows: We men are spirit born of spirit; in our pre-earthly existence our being was knit together with the spiritual, but now we are transplanted into the environment of Nature. We behold the lovely flowers, the vast mountains, the mighty power of Nature in wind and weather, but the spirit is withdrawn.

Thus the notion of a purely material Nature in the environment increasingly arose. Men felt — I mean of course those who were the most developed, the men whom we should call civilised in our modern sense — they saw that their body was formed out of the substances of this Nature which for them had lost its divine-spiritual quality. If men nowadays felt anything like this, they would begin to think, to speculate and philosophise about it. It was not so with the men of that earlier time. Without reflection they experienced a great disharmony within themselves: “I come as spirit from a world of spirit, my essential being has descended from divine heights, but I am clothed with substance taken from a Nature which the spirit seems to have abandoned; my spiritual existence is interwoven with something that does not reveal the spirit. My body is made up out of the same substances as the flowers of the field and the water of the clouds and rain, but these substances have lost their divine quality.”

Those men felt as if they had been expelled from the spiritual world and thrust into a world to which in their essential being they did not really belong. It was of course possible to reject or to sleep through this mood, as happens nowadays with various aspects of our civilisation. But those who were awake at that time felt it, and it is through moods and feelings like this and not in thoughts and concepts that mankind develops.

[W]hen the Sun's rays fall on to the Earth, they are not merely reflected from flowers and stars. Farmers know this better than the city dweller does, for during the winter they use the Sun's warmth which has penetrated into the Earth. At that time of the year we have within the Earth what has streamed into it during the summer. Not only the Sun's warmth but other forces stream into the Earth. Yet from the point of view of which I am speaking this was the less important fact; the more important was that the activities of the Moon could also penetrate below the surface of the Earth to a certain extent. It was a pleasant idea of those days, not just a poetical idea but, in a way, a super-poetical one — though of course not held in any logical conception as we should today, but as a picture — when men thought of the light of the Sun streaming down to Earth in the light of the full Moon and penetrating a certain distance into the Earth, then being reflected not just from the Earth's surface but from its interior, after the light had been absorbed by the Earth.

The silver ebb and flow of the moonlight were experienced by man as the rhythmic play of its rays. It was not only a beautiful picture; the priests of the Mysteries knew something definite about this flowing moonlight. They knew that man is subject to gravitation as he lives on the Earth; that gravity holds him to the surface of the Earth, and thus the Earth draws his being to itself, as it were. The forces of the Moon were known to work against this force of gravity. They

are in general weaker than the vigorous forces of the Earth's gravity, but they work against those forces. It was known that man is not just a clod held fast by the Earth's gravity but that he is rather in a sort of balance, drawn to the Earth by gravity and away from it by the forces of the Moon, and that for him as earthly man it is the Earth which holds the upper hand. But as regards his head-activity, the effective influence on it is the negative gravity that draws him away. Thus though man might not be able to fly, at least he could raise his spirit into the starry spaces. By means of this Initiation, through these Moon activities, humanity in those days learnt from their Mystery-priests the effect on earthly man of his starry environment.

R. Steiner. Nature Spirits (1995), p. 117-119, 124-131, 147-148.

Plant life, as it sprouts and springs forth from the earth, immediately arouses our delight, but it also provides access to something which we must feel to be full of mystery. In the case of the animal, though certainly its will and whole inner activity have something of the mysterious, we nevertheless recognize that this will is actually there, and is the cause of the animal's form and outer characteristics. But in the case of the plants, which appear on the face of the earth in such magnificent variety of form, which develop in such a mysterious way out of the seed with the help of earth and the surrounding air - in the case of the plant we feel that some other factor must be present in order that this plant world may arise in the form it does.

When spiritual vision is directed to the plant world, we are immediately led to a whole host of beings which were known and recognized in the old times of instinctive clairvoyance, but which were afterwards forgotten, and today remain only as names used by the poet, names to which modern man ascribes no reality. To the same degree, however, in which we deny reality to the beings that flit so busily around the plants, to that degree do we lose the understanding of the plant world. This understanding of the plant world, which, for instance, would be so necessary for the practice of medicine, has been entirely lost to present-day humanity.

We have already recognized a very significant connection between the world of plants and the world of butterflies; but this too will only really come alive for us when we look yet more deeply into the whole range of activities and processes that go on in the plant world.

Plants send down their roots into the ground. Anyone who can observe what they really send down and can perceive the roots with spiritual vision (for this he must have) sees how the root is everywhere surrounded by the activities of elemental nature spirits. And these elemental spirits, which an old clairvoyant perception designated as gnomes and which we may call the root spirits, can actually be studied with Imagination and Inspiration, just as human life and animal life can be studied in the physical world. We can look into the soul nature of these elemental spirits, into this world of the spirits of the roots.

The root spirits are quite special earth folk, invisible at first to outer view but in their effects so much the more visible; for no root could develop if it were not for what is mediated between the

root and the earth realm by these remarkable root spirits, which bring the mineral element of the earth into flux in order to conduct it to the roots of plants. I am of course referring to the underlying spiritual process.

These root spirits, which are everywhere present in the earth, get a quite particular sense of well-being from rocks and from ores (which may be more or less transparent and also contain metallic elements). They have the greatest feeling of well-being in this sphere because it is the place where they belong, where they are conveying what is mineral to the roots of the plants. And they are filled with an inner spirituality that we can only compare with the inner spirituality of the human eye and the human ear. For these root spirits are in their spiritual nature entirely sense. Apart from this they are nothing at all; they consist only of sense. They are entirely sense, and it is a sense which is at the same time intellect, which does not only see and hear but immediately understands what is seen and heard; it not only receives impressions, but everywhere also receives ideas.

We can even indicate the way in which these root spirits receive their ideas. We see a plant sprouting out of the earth. The plant comes, as I shall presently show, in connection with the extra-terrestrial universe; and, particularly at certain seasons of the year, spiritual currents flow from above, from the flower and the fruit of the plant down into the root, streaming into the earth. And just as we turn our eyes towards the light and see, so do the root spirits turn their faculty of perception towards what trickles downwards from above, through the plant into the earth. What trickles down towards the root spirits is something which the light has sent into the flowers, which the heat of the sun has sent into the plants, which the air has produced in the leaves, which the distant stars have brought about in creating the plant form. The plant gathers the secrets of the universe, sends them into the ground, and the gnomes take these secrets into themselves from what trickles down spiritually to them through the plants. And because the gnomes, particularly from autumn on and through the winter, in their wanderings through ore and rock, bear with them what has trickled down to them through the plants, they are the beings within the earth which carry the ideas of the whole universe as they stream and wander through the earth.

[J]ust as the undine is the chemist for the plant, so is the sylph the light bearer. The sylph imbues the plant with light; it bears light into the plant.

Through the fact that the sylphs bear light into the plant, something quite remarkable is brought about. You see, the sylph is continually carrying light into the plant. The light, that is to say the power of the sylphs in the plant, works on the chemical forces that were induced into the plant by the undines. Here occurs the interworking of the sylph's light and the undine's chemistry. This is a remarkable moulding and shaping activity. With the help of the upstreaming substances which are worked on by the undines, the sylphs weave an ideal plant form out of the light. They actually weave the archetypal plant within the plant from light and from the chemical working of the undines. And when towards autumn the plant withers and everything of physical substance

disperses, then the forms of the plants begin to trickle downwards, and now the gnomes perceive them, perceive what the world - the sun through the sylphs, the air through the undines - has brought to pass in the plant. This the gnomes perceive, and throughout the entire winter they are engaged in perceiving below what has trickled down into the soil from the plants. Down there they grasp world ideas in the plant forms which have been given shape and form with the help of the sylphs, and which now enter into the soil in their spiritual ideal form.

People who regard the plant as something material will of course know nothing of this spiritual ideal form. Thus at this point a colossal error, a terrible error appears in the materialistic observation of the plant. I will give you a brief outline of this.

Everywhere you will find that in materialistic science matters are described as follows. The plant takes root in the ground, above the ground it develops its leaves and finally its flowers and within the flower the stamens, then the carpel. The pollen from the anthers - usually from another plant - is taken over to the stigma, the carpel is fertilized and through this the seed of the new plant is produced. That is the usual way of describing it. The carpel is regarded as the female element and what comes from the stamens as the male - indeed matters cannot be regarded otherwise as long as people remain fixed in materialism, for then this process really does look like fertilization. This, however, it is not. In order to gain insight into the process of fertilization, that is to say the process of reproduction, in the plant world, we must be conscious that in the first place the plant form arises through the work of those great chemists, the undines, and the work of the sylphs. This is the ideal plant form which goes down into the ground and is taken care of by the gnomes. It is there below, this plant form. And there within the earth it is now guarded by the gnomes after they have seen and perceived it. The earth becomes the womb for what thus trickles downwards. This is something quite different from what is described in materialistic science.

After it has passed through the sphere of the sylphs, the plant comes into the sphere of the elemental fire spirits. These are the inhabitants of the element of heat and light. When the warmth of the earth is at its height, or otherwise at the right level, it is gathered up by the fire spirits. Just as the sylphs gather up the light, so do the fire spirits gather up the warmth and carry it into the flowers of the plant.

Undines carry the action of the chemical ether into the plants, sylphs the action of the light ether into the flowers, and the pollen provides what may be called little airships that enable the fire spirits to carry the warmth into the seed. Everywhere warmth is collected with the help of the stamens, and is carried by means of the pollen from the anthers to the seeds in the carpel. And what is formed here in the carpel in its entirety is the male element that comes from the cosmos. It is not a case of the carpel being female and the anthers of the stamens being male. In no way does fertilization occur in the flowers but only the preforming of the male seed. Fertilization occurs when the cosmic male seed taken from the warmth of the universe in the flower by the fire spirits is brought together with the female principle that has trickled down into the soil as an ideal element at an earlier stage, as I have described, and is resting there.

For plants the earth is the mother, the heavens the father. And all that takes place outside the domain of the earth is not the maternal womb for the plant. It is a colossal error to believe that the maternal principle of the plant is in the carpel. This is in fact the male principle which has been drawn forth from the universe with the aid of the fire spirits. The maternal element is taken from the cambium of the plant, which lies between bark and wood, and carried down as ideal form. And what now results from the combined gnomes' and fire spirits' activity - this is fertilization. The gnomes are, in fact, the spiritual midwives of plant reproduction. Fertilization takes place below in the earth during the winter, when the seed comes into the earth and meets with the forms which the gnomes have received from the activities of the sylphs and undines and now carry to where these forms can meet with the fertilizing seeds.

You see, because people do not recognize what is spiritual, do not know that gnomes, undines, sylphs and fire spirits - which were formerly called salamanders - are actively involved in plant growth, there is a complete lack of clarity about the process of fertilization in the plant world. Up there, outside the earth, nothing by way of fertilization takes place; the earth is the mother of the plant world, the heavens the father. This is the case in a quite literal sense. Plant fertilization takes place through the fact that the gnomes take from the fire spirits what the fire spirits have carried into the carpel as concentrated cosmic warmth on the little airships of the anther pollen. Thus the fire spirits are the bearers of warmth.

And now you will easily gain insight into the whole process of plant growth. First, with the help of what comes from the fire spirits, the gnomes down below instill life into the plant and push it upwards. They are the fosterers of life. They carry the life ether to the root - the same life ether in which they themselves live. The undines foster the chemical ether in the plant, the sylphs the light ether, the fire spirits the warmth ether. And then the fruit of the warmth ether again unites with what is present below as life. Thus plants can only be understood when they are considered in connection with all that is flitting around them full of life and activity. And one only reaches the right interpretation of the most important process in the plant when one penetrates into these things in a spiritual way.

Whenever this has been understood, it is interesting to look again at the words Goethe jotted down when, in connection with another botanist, he was terribly annoyed because people speak of the eternal marriages going on up there in the plants. Goethe was affronted by the idea that endless marriages should be consummated all over every meadow. This seemed to him something unnatural. In this Goethe had an instinctive but very true feeling. He could not as yet know the real facts of the matter, but nevertheless his instinct was a sure one. He could not see why fertilization should take place up there in the flower. He did not as yet know what goes on below ground and that the earth is the maternal womb of the plants. But he instinctively knew that the process which takes place in the flower is not what all botanists take it to be.

You are now aware of the inner connection between plant and earth. But there is something else which you must take into account.

You see, when up above the fire spirits are flitting around the plant and transmitting the pollen from the anthers, they have only one feeling, which they have in an enhanced degree compared

to the feeling of the sylphs. The sylphs experience their self, their ego, when they see the birds flit about. The fire spirits have this experience, but to an intensified degree, in regard to the butterfly world and indeed the insect world as a whole. And it is these fire spirits which take the utmost delight in following in the tracks of the insects' flight so that they convey warmth to the carpel. In order to carry the concentrated warmth, which must descend into the earth so that it may be united with the ideal form, the fire spirits feel themselves intimately related to the butterfly world and to the world of the insects in general. Everywhere they follow in the tracks of the insects as they flit from flower to flower. And so one really has the feeling, when following the flight of insects, that each of these insects as it flits from flower to flower has a quite special aura which cannot be entirely explained from the insect itself. Particularly the luminous, wonderfully radiant, shimmering aura of bees as they flit from flower to flower is unusually difficult to explain. And why? It is because the bee is everywhere accompanied by a fire spirit which feels so closely related to it that, for spiritual vision, the bee is surrounded by an aura which is actually a fire spirit. When a bee flies through the air from plant to plant, from tree to tree, it flies with an aura that is actually given to it by a fire spirit. The fire spirit does not only gain a feeling of its ego in the presence of the insect, but it wishes to be completely united with the insect.

Through this, insects also obtain that power about which I have spoken to you, and which shows itself in a shimmering forth of light into the cosmos. They obtain the power completely to spiritualize the physical matter which unites itself with them, and to allow the spiritualized physical substance to ray out into cosmic space. But just as with a flame it is heat in the first place which causes the light to shine, so, above the surface of the earth, when the insects shimmer forth into cosmic space and attract the human being to descend again into physical incarnation, it is the fire spirits which inspire the insects to this activity, the fire spirits that flit around them. But if the fire spirits are active in promoting the outstreaming of spiritualized matter into the cosmos, they are no less actively engaged in seeing to it that the concentrated fiery element, the concentrated warmth, goes into the interior of the earth, so that, with the help of the gnomes, the spirit form, which sylphs and undines cause to trickle down into the earth, may be awakened.

This, you see, is the spiritual process of plant growth. And it is because the subconscious in man divines something of a special nature in the flowering, sprouting plant that he experiences the being of the plant as full of mystery. The mystery is not reduced to fragments, of course, nor is the dust brushed off the butterfly's wings. But our instinctive delight in the plant is raised to a higher level when not only the physical plant is seen but also that wonderful working of the gnomes' world below, with its immediate understanding that gives rise to intelligence, the gnomes' world which first pushes the plant upwards. Just as the human intellect is not subject to gravity, just as the head is carried without our feeling its weight, so the gnomes with the light of their intellect overcome what is of the earth and push the plant upwards. They prepare life down below. But the life would die away were it not given impetus by the chemical activity brought to it by the undines. And this must be imbued with light.

And so we picture, from below upwards, in bluish, blackish shades the force of gravity, to which an upward impulse is given by the gnomes, and flitting all around the plant - indicated by the leaves - the undine power that blends and disperses substances as the plant grows upwards. From above downwards, from the sylphs, light is made to leave its imprint in the plant and moulds and creates the form which descends as an ideal form and is taken up by the maternal womb of the earth; moreover fire spirits flit around the plant and concentrate cosmic warmth in the tiny seed points. This is sent down to the gnomes together with the seed power, so that down there they can cause the plants to arise out of fire and life.

And further we now see that essentially the earth is indebted for its power of repulsion and its density to the antipathy of the gnomes and undines towards amphibians and fishes. If the earth is dense, this density is due to the antipathy by means of which the gnomes and undines maintain their form. When light and warmth come down to earth, this is at the same time an expression of that power of sympathy, that sustaining power of sylph love, which is carried through the air, and to the sustaining sacrificial power of the fire spirits, which brings the power to bend down to what is below. So we may say that, over the face of the earth, earth density, earth magnetism and earth gravity, in their upwardly striving aspect, unite with the downward striving power of love and sacrifice. And in this interworking of the downwards streaming force of love and sacrifice and the upwards streaming force of density, gravity and magnetism, in this interworking, where the two streams meet, plant life develops on the surface of the earth. Plant life is an outer expression of the interworking of world love and world sacrifice with world gravity and world magnetism.

So now you have seen what matters when we direct our gaze to the plant world, which so enchants, uplifts and inspires us. Real insight can only be gained when our vision embraces the spiritual, the supersensible, as well as what is accessible to the physical senses. This enables us to correct the capital error of materialistic botany, that fertilization occurs above the earth. What occurs there is not the process of fertilization but the preparation of the male seed of heaven for what is being made ready as the future plant in the maternal womb of the earth.

Let us assume we have before us a plant with its leaves and flowers. We have already learned that a plant is the reflected image of the archetypal form existing in the spiritual world and which forms the plant-being on earth. And when we gain knowledge of the plant kingdom by raising our consciousness into this world of archetypal forms, something of vital importance is disclosed, namely, that we must clearly differentiate between the kinds of plants found on earth. When we examine a particular specimen, the *Cichorium intybus* (chicory), for example, with the appropriate spiritual perception, its appearance is different from that of many others. Let us take a typical example, the common violet and compare it with *Belladonna*, the deadly nightshade. When we study the plant kingdom in the way I have indicated, we shall find, when we participate in the world to which the violet belongs, that is, in the world of the emptied, waking consciousness, that the violet stands revealed in all its innocence to the eye of the spirit.

The deadly nightshade, *Belladonna*, on the other hand, derives its being from other worlds. We understand the being of the common plant when we perceive that it possesses a physical and etheric body and that the flowers and fruit are surrounded by the universal cosmic element. We see the organic life of the plant sprouting everywhere out of the earth, the etheric body around it and the astral element seemingly enveloped in cloud. Such is the nature of plants like the violet. Plants like the deadly nightshade have a different arrangement. The *Belladonna* develops its bell-shaped flowers inside which the fruit is formed and the astral element penetrates into the fruit. The violet develops its capsule only in the etheric element. The fruit of the deadly nightshade assimilates the astral element and in consequence the plant is poisonous. All plants which in any of their parts assimilate astrality from out of the cosmos are poisonous. Those forces which enter into the animal, provide it with an astral body and fashion it inwardly into a sentient being are also the source of the toxic element in plants.

This is most interesting. We find that our astral body is the bearer of forces which prove to be poisonous when assimilated by plants. This is how we must think of poison. We can only acquire an inner understanding of poison when we realize that man's astral body contains in effect the forces of all existing toxins, for they are an integral part of his being.

In this discussion I simply wish to present a clear-cut point of view which will be of service later in helping us to distinguish between true and false paths in spiritual investigation. What do we learn from the examples of the violet and belladonna? When we have developed the consciousness appropriate to the world of each plant we perceive that the violet is a being that remains within the world proper to it and attracts to itself nothing from a world that is alien to it. The deadly nightshade, on the other hand, attracts to itself something from an alien world; it assimilates something that is the prerogative of the animal kingdom and not the plant kingdom. This is true of all poisonous plants. They assimilate something which should not belong to the being of the plant, but which belongs in reality to the animal kingdom.

R. Steiner. The Human Being In Body, Soul, and Spirit: Our Relationship to the Earth (1989), p. 45-47, 153-156.

Now look at this plant. When we look at the plant - of course, we can do this only in the daytime, when there's light - we see that this plant is illuminated by sunlight, and this light reaches all the way into our eyes. Through the optic nerve, which extends back from the eyes to the brain, the light reaches the brain. Thus, when we look at a plant, our eyes focus on it, and rays of light proceed from the plant through the eyes and into the brain.

Gentlemen, when you observe a plant, for example a flower, in this way, you are paying attention to it. To say that you pay attention to a flower is actually saying quite a lot. For when you focus on the flower, you forget yourselves. We can be so attentive that we completely forget ourselves. As soon as you begin to forget the fact that you are looking at the flower, the strength

develops to deposit some brainsand in the brain. In other words, looking at something means depositing brainsand.

This depositing is a typical process and part of being human. As you know, you perspire not only when you exert yourselves, but also, for example, when you are very frightened. Then you secrete not only brainsand, but you also excrete other minerals and water through your skin. That is what is known as excretion. Looking at something means constantly excreting brainsand. And as you know, we must dissolve this brainsand; because if we did not, this mineral would develop into a tiny flower in our brain! Looking at the flower actually means that the brainsand in us forms a tiny flower; but it is an upside-down flower, just as the eye's picture of objects is upside-down.

When we look at a chair - it doesn't have to be anything as nice as a flower - through the act of concentrated looking a certain amount of brainsand is formed in our head. If we now completely gave ourselves up to this act of looking, a very small picture of the chair, smaller even than anything you can see under the microscope, would develop in the brainsand. If we had strengthened our faculty of concentrated looking and looked around in a room, the entire room would appear in our heads as an inverted image consisting of miniature silica pebbles. It is just enormous what is constantly being built inside us. However, we don't allow it to be completed. Without being conscious of it, we keep destroying the structure.

In this respect, we are peculiar creatures. When we look at the things around us, they constantly want to form replicas of themselves in us, but upside-down replicas. Even if we did not take an interest in the world and did not look at things, such forms would be created in us by what happens in the universe, even at night when we are asleep and don't have the inner strength to dissolve those forms. These forms develop also when the earth is not illuminated by sunlight, but is affected by forces that come from much farther away. We are always vulnerable, susceptible to these forces.

When we are asleep, the cosmos wants to create all kinds of forms of the mineral, inanimate realm in us, and when we look at things, then shapes want to develop in us that are just like our surroundings. Thus, when we sleep, we copy the cosmos, where everything is arranged the same way it is in crystals. Crystals look the way they do because the cosmic forces are arranged in just the same way as the crystals. Some of these forces move in one direction, and others in a different one, so that crystals are shaped by the entire universe. This process wants to take place in us, too. When we look at the world around us, the shapes of our immediate environment tend to form themselves inside us as well. We must constantly prevent them from solidifying; we must constantly dissolve them.

Well, gentlemen, this is quite a strange process going on there. Just think, the flower wants to create an inanimate silica image of itself in us. But we must not let this happen. For if it did, we would not know anything about the flower, but suffer from gout in the head. Therefore, the image must be destroyed before it solidifies.

Let us now look at plants. You know that some plants propagate through so-called slips. When these particular plants grow up, you can cut off a twig in the proper way and put this slip into the soil, where it will grow as a separate plant. Certain plants can propagate this way. How is this possible? They can form independent life out of such pieces of themselves, because their seeds are in the earth in winter. This is indeed a very important aspect for plants. If you want them to grow properly, they must actually remain in the earth throughout the winter, so that they can emerge from it. Of course, there is also summer grain, but we can talk about that some other time. Most plants can grow only when they develop their seeds in the earth. Some bulbs can also grow in water; however, that requires special measures. Most plants need to be placed into the earth where they can then develop their growth forces.

What happens when a seed is put into the soil? The tiny grain now has the pleasure of absorbing the forces the sun has radiated into the earth. This is more difficult for animals. Those that live in the soil, as the earthworms, easily absorb the sun forces there. This is why all animals in the soil or close to it reproduce their own kind very quickly. This is true of worms in general, and particularly of those that unfortunately enter the human intestines. They propagate extremely fast, and we must constantly exert efforts to hold them in check; sometimes this requires nearly all our life forces.

Plants can grow directly out of the soil [...]. They have roots below, through which they push up. They develop leaves, then blossoms, and finally new seeds. However, as you know very well, gentlemen, once a plant develops blossoms, it no longer grows upward. This is very interesting. Its seed, the shoot, is placed into the soil, from where it develops leaves and blossoms. Then the growing process stops, and the plant quickly produces seeds. If it didn't do that right away, the sun's forces would reach only the petals, which are of course infertile. The plant would develop a huge beautiful blossom of many colors, but there would be no seed. This is why at this stage the plant hurries to produce seeds while there is time.

You see, the sun has the ability to make plants pretty when its rays reach them from the outside. Flowers in the fields, for instance, receive their beautiful colors from the rays of the sun, shining on them from above. However, just as the sun dries up and compacts part of the oyster into the shell, so it would eventually dry up and destroy the plants.

You can see this effect of the sun everywhere on earth, especially in the hot regions near the equator. There you will come upon birds of marvelous colors flying around. They are pretty because of the sun in the sky. Their feathers are all beautifully colored, yet completely devoid of life forces. More than anywhere else, the life forces have withered away in the feathers.

The same thing holds true for plants. While they grow out of the soil, they overflow with vitality, which gradually fades away. Finally, they must gather up all of their remaining energy and focus it on the seeds. You see, the sun produces beautiful leaves, and colorful blossoms, but in the process it destroys the plants. The pretty blossoms do not contain any reproductive energy whatsoever.

What do plants do when you put their seeds into the earth? They do not simply cuddle into the sun-warmed soil, but extend their growth forces to the leaves; they extend them upward. These green portions are developed by sun forces, by warmth, light, and so forth. This is how the sun forces the plants get from their seeds move upward. The sun forces reaching plants from the outside, however, will destroy them in the process of creating very beautiful blossoms. The seeds have their vitality from last year's sun warmth, which was stored in them all winter long. The seeds do not come from this year's sun; that is an illusion. This year's sun creates the beautiful blossoms. But the seeds contain last year's sun forces, which were poured into the earth and which sustain the entire growth of the plant.

**Steiner. Universe, Earth and Man (1941), p. 62-65, 69-72, 159,
176-178.**

Have lower beings, such as plants for example, an ego? Yes, they have an ego. When the clairvoyant examines a plant he finds that the part visible in the physical world is nothing but a combination of the physical and etheric bodies of the plant. Imagine the surface of the earth on which plants grow, picture the root of a plant, the stem, the leaves, and flowers. That which grows has not in the physical world, like man, a physical body, an etheric body, astral body, and ego, hut only a physical and etheric body. We must not conclude from this that the astrality with which we are filled, and which is active also in animals, is not active in the plant. To the opened eyes of the clairvoyant the plant is surrounded by a glow, and this comes from astral substances. It is this also which co-operates in the development of the flower. While the plant grows from leaf to leaf through the influence of the etheric body, its growth terminates above in a flower through being surrounded by astral substance.

The clairvoyant sees every growing plant thus surrounded by astral substance, but there is something else connected with the plant, namely its ego. If we wish to locate the ego of a plant we must seek it in the centre of the earth. There the ego of all plants is to be found; this is an important and essential truth. Whereas we see the egos of animals in the circumference of the earth, we must turn to the centre of the earth for the egos of plants. In fact, when clairvoyant vision has attained to such a view of the plant creation the earth, which otherwise confronts man merely as a material structure, expands to an organism having its ego in the centre; this ego includes all plant egos.

The earth is ensouled by an ego; and in the same way as your head is covered with hairs which grow from out your being, so plants grow from out the being of the earth, and belong to the whole organism of the earth. When one tears a plant up by the roots it hurts the whole earth, the soul of the plant experiences pain. This is a fact. On the other hand, one should not think that the earth feels pain when a flower is plucked; exactly the reverse is the case. For example, when in autumn a reaper cuts corn the clairvoyant sees great currents of a feeling of well-being pass over the earth. Objections to this from the moral standpoint do not hold good. One might for example

ask: Is it then a more trifling sin when a child plucks all sorts of plants uselessly than when a man transplants one carefully and with good intention? The fact remains the same: If a plant is uprooted the earth feels pain; if a plant is cut the earth feels pleasure. For the earth has pleasure in yielding up what it bears on its surface; also when animals pass over the earth grazing upon its plants the earth has a sensation of pleasure; much the same as a cow has when her calf draws milk. This is an absolutely occult fact. The sensation of the earth when plants spring from it and are beamed upon by the astral body is the same as that of animals when they yield their milk. These are not merely comparisons, but are actual facts. Anyone who with clairvoyant vision can see into the astral world still sees nothing of the ego of plants; to do this a higher clairvoyance is required, that by which it is possible to see into the devachanic world.

We can say, therefore, that the group-ego of animals is in the astral world, whereas the ego of plants is in the devachanic world.

Let us turn now to the consideration of plants, let us think how their physical body grows, how the glow of the astral body surrounds this, and how the ego is in the centre of the earth. Let me point out once more what is essential in this. What does the astral body really do when it develops the flower from outside? It does something of great importance in the life of the plant, and we shall understand this if we go a little more deeply into the spiritual structure of our earth.

In the last lecture we learnt that there was a time when the earth and the sun formed one body. Man was already there though he lived under entirely different conditions from those of today. He possessed a dim clairvoyant consciousness and his organism was such that he could live in that earth-sun body. Today he is so organized that, when a sunbeam falls on his eye he ‘sees,’ that is, he sees the sunbeam which penetrates to him from outside, and he sees by means of this sunbeam. This was not the case at the time when man was still one with the earth, in the sun. He then saw the sunbeams from within, he saw the soul-forces which permeated the sunbeams. What were these soul-forces? The forces permeating the sunbeams are the same as the forces within our astral bodies. Physical light is but the external body of the astral light which radiates from the sun, and the astrality gleaming about the upper part of the body of a plant is connected inwardly with the astral outpourings coming from the sun. You have wishes and impulses of will, because you possess an astral body; in the case of plants it is desire, feeling, and will that play round the blossoms.

What does that which plays round the plant desire? It desires to absorb the soul of the sun beam, and with the soul its purest part — its ego; and it is this purest part which passes through the plant to the centre of the earth. The activity of the plant’s ego is expressed in the activity of the spiritual content of the sunbeam which passes through it to the centre of the earth. Thus earth, plant, and sun work together. The spiritual powers of the sun are in fact continually being led to the earth. And how? By means of the astral body playing round them; the blossoms, which long to absorb the soul of the sunlight, allow it to sink through their bodies into the earth. That which is brought about outwardly in the physical world through the beams of the sun is but one side of

its activity; the other works psychically in the plant, which longs for the soul of the light that streams to earth in the rays of the sun.

Let us now try to understand the practical result of these things. Imagine a man of a far distant future who perceives in every plant what I have just told you of, its longing to absorb the soul of the sun. This man will have, at a higher spiritual stage, something that the animal has at a lower stage — when grazing in a meadow it chooses the plants that are of use to it and leaves others alone — an unconscious instinct, but really it is higher spirits who guide the animal. The man of the future will approach plants that are of use to him consciously; not as now when he reflects on which yield the best substances for his body; he will then have a vital relationship to every plant, for he will know what it is they have absorbed, and what passes from them to him. Eating will not be to him a mean occupation, but an act consummated with soul and spirit, for he will know that everything he eats is the external form of something spiritual. In our immediate age, when men know little about the vital inward relations between themselves and the world, all kinds of substitutes are made use of. Why have the Initiates of all ages urged people to say grace before eating? The grace should be a token of the recognition that, together with the food, something spiritual enters into man.

We have seen how sensation and feeling alter when man acquires true wisdom. With a certainty as sure as the instinct of animals at a lower stage man will know with shining clearness what he should do; he will know because he will recognize the soul of that which he absorbs into himself. Down to everyday details such as these we can trace the practical value of Spiritual Science for the future.

Thus we can now consider the world with entirely different feelings; for we regard the earth not only as a body shone upon by the rays of the sun, but as a living being which absorbs the soul of the sun through the astral mantle of plants, and we see the entire Universe permeated by the egos of minerals, we see how all these things are ensouled and filled with spirit.

Plants have their ego localised in the centre of the earth-planet, while their astral principle, which brings about the development of the flower, encircles them above the earth.

If you could perceive the Sun-Forces streaming down on to the bodies of plants as they grow (these bodies whose roots and leaves terminate in flowers bathed round by the astral body, into which stream the forces of the sun), if you could perceive these forces secretly entering the earth through the flower, you would perceive them as spiritual music — the music of the spheres. This can, however, only be heard by spiritual ears.

Spiritual sound enters into flowers, that is the secret of the development of plants, each separate flower is the expression of the tones which give it form, and give to the fruit its character. The sun-tones are caught up by the plant, and these rule within it as spirit.

You perhaps know how form can be imparted by sound in the material world; you may remember the experiment of the Chladnic sound forms. How dust scattered upon a disc assumes certain figures as the result of sound; in these figures we have the expression of the sound that produces them. Just as physical sound is caught up, as it were, in this dust, so the spiritual sound of the sun is caught up and absorbed by flower and fruit. It is hidden mysteriously in the seed, and when a new plant grows from the seed it is the sun-tone it has absorbed that conjures forth its form.

Clairvoyant consciousness looks around upon the vegetable kingdom, and in the flowers which form the variegated carpet of the earth's surface it sees everywhere the reflection of sun-tones. What Goethe says is true, "The sun intones his ancient song," but it is also true that these sun-tones stream to earth, are absorbed by plants, and re-appear when new plants spring from the seed. For in the forms of plants are heard the sun-tones which re-echo into space the music of the spheres.

Herein we see how universe and earth, how fixed stars and planets, are spiritually in touch with each other, and we learn not only to look at what is in our environment in the physical world, but we also gain an inkling of how those who partake of Inspiration ascend to the sun.

5

MAGIC GARDENS

by CORINNE HELINE

Editor's Foreword

Corinne Heline (1872-1975) was the author of numerous books on occult and mystical subjects. She gravitated towards the Rosicrucian tradition. For more on Heline refer to Wikipedia:

https://en.wikipedia.org/wiki/Corinne_Heline

One of her books is directly related to the theme of this anthology: *Magic Gardens: A Symbolic Rendering of Angelic Communion with Man Through the Medium of Flowers* (1944; 2nd edition, The Rosicrucian Fellowship Press, 1965). Below are three small chapters from this book; poetic epigraphs to chapters are omitted. Printed books by Heline are available for purchase from The Rosicrucian Fellowship at

<https://rosicrucian.com/prices01.htm#cheline>

Prelude: The Lord God Planted a Garden

Every flower bears a starry imprint, declared the illumined seer, Paracelsus. From the zodiac come the veritable secrets of God. The Star Angels are transmitters, and flowers become symbols of their communications. The closer our communion with the angels, the deeper will be our understanding of the mysteries of the plant kingdom and the greater our realization of the spiritual ministry of the world of flowers.

Each of the zodiacal Hierarchies creates its own cosmic flower patterns in the celestial realms. These patterns conform in shape, size, color and tone - every flower sings - with the vibratory keynote of its sign. These cosmic prototypes are perfect in every detail. In the highest heavens they live and bloom in such wondrous beauty as to have inspired many legends which serve in a humble way to bring to earth some slight conception of their transcendent glory in the higher worlds and also the significance they hold for the peoples of earth. Imbued with eternal life they never fade, but live and flourish with an ever-increasing splendor through the ages.

It is from these perfect patterns in the heaven worlds that the angels build the reflections which we who live upon the earth know as flowers, and which, when so understood, become among the most sublime of earth's teachers. Each flower family is given its own special work to perform. Each plant bears deeply within its heart a message to the human family.

In the earlier stages of their development, flowers, however lovely, were without fragrance, for perfume is the soul of the blossom, and soul is acquired only through service.

Each flower family was fashioned by the angels to represent some specific quality or attribute to be awakened within man. As the angelic hosts impress this ideal upon a floral archetype, its physical embodiment becomes a radiant herald of this celestial message. Flowers are thus literally a medium of contact between the Shining Ones and those who live upon the earth, their fragrance developing and increasing as a beautiful testimony to their work as mediators. As man becomes increasingly sensitive, he will begin to interpret this flower language, and to the degree that he does this, and lives in accordance with its high idealism in his daily contacts with his fellowman, the perfume of our flower friends will be intensified, the colorings will grow more exquisite, and the delicate petals will have greater endurance.

Each plant bears in its life forces the signature of its stellar creation. This creative impress takes form within the heart of the seed, and one who possesses the 'blessed sight' can observe within it the complete picture of the plant that is later to come into a physical expression upon the earth. So, too, may those possessing the 'inner wisdom' discern the message which flowers bring concerning the realities of heaven, and which are awaiting manifestation on the physical plane.

As a man learns to respond to the ideals instilled by the angelic beings into the hearts of flowers, he too will develop a quality of soul that will radiate in fragrance, rare and beautiful. He will walk in an aura of radiant light and know the glory of an immortal life that shall never fade.

The Soul's Garden

Because the physical environment is cramped and limited, and since the soul must have freedom to grow and expand, to study and dream, there come joyous pilgrimages into wider horizons, into more extended fields of exploration, far away, unfettered, free. Across the white page of an infinite scroll the Finger of Truth imprints many indelible lessons. From their high place in the skies these lessons are carried down to earth where they struggle forth into expression, sometimes vague, sometimes distinct, but never of such crystal clarity as they possess on high.

On one of these journeys I saw in the distance something that looked like a great crimson blood stain on the horizon. Upon coming nearer, I discovered an enormous garden of red roses. From all sides they nodded beautiful heads or extended soft, velvety hands to hold me. Their luxurious hearts emitted a glamorous perfume that enthralled me even though the excess of it was nauseating and repellent. The heavy fragrance of the air was broken only by the whirring of wings, as birds of brilliant plumage sailed by, gloriously colored, but strangely mute.

Despite the radiant coloring that marked this garden it was devoid of all sound. I seemed to feel only a vague undercurrent of restlessness that pervaded all things, and above the revel of color hung a silence, deep and impenetrable.

In the distance walked a maiden, the very spirit of the garden incarnate in all its glowing, passionate beauty. She caressed a cluster of the crimson roses, but they faded very quickly, and as she tossed them from her with a gesture of weariness, they lay shriveled at her feet, strangely like ashes of hopes and broken dreams.

As I longed intensely to know the mystery of this alluring place, a voice emerged out of the silence: "This is the garden of sensual love in all its evanescent, fleeting beauty; it is the garden of the red rose that typifies the love that is human only. Here each soul returns many times and lingers long, straying through this tangled wilderness of crimson beauty. It is only after a protracted journey through tears and shadows that the heart awakens to the realization that the roses which grow here can never become immortal. The glamor of this garden can never be eternal."

Loath to go, yet with an innate urge to leave, I turned away, and as soon as my eyes were clear of the strange lights in the crimson garden, there arose before my vision another enclosure. Here the air was clearer, finer, rarer. Instead of the disquieting languor of the Red Rose Garden, the very atmosphere was charged with an urging, calling, pleading impulse that pressed upon my soul until it shrank back trembling, afraid to venture further.

This garden was also filled with roses, not crimson as in the other, but of a glowing pink. There were masses of them growing in every conceivable way. Each perfumed depth seemed to hold an insistent appeal toward some higher goal. Innumerable birds lingered here also. They were much lighter in hue than those of the crimson garden and from their musical throats flowed a melodious chorus.

Here, too, wandered a beautiful maiden embodying the very spirit of her surroundings. With smiles on her lips and tender dreams in her eyes, she gathered clusters of roses and held them against her face. Unlike the red roses, these did not quickly wither, but glowed with fresh, pure lights like newly-awakened ideals.

"I could linger here forever," I murmured.

"Yes," answered the voice, "for this is the Garden of Pink Roses; it is the home of aspiration, formed by the mingling of the red rose of human love with the white rose of purity. The soul must live through many life experiences before it can build its sanctuary of purity. Many petals are torn and shattered in the making. Many a rose-builder finds his blossoms bear too deep a crimson hue to live in this garden, and so he must commence again and build anew. But day by day the roses are becoming more beautiful, and the petals are growing more lustrous with newly expressed ideals and aspirations."

Once more I was swept on by an impelling urge toward what appeared like a gleaming star upon the horizon but which, viewed closer, proved to be two gates formed of glowing lights that played back and forth, and between which streamed currents that looked like a shining river. It

was the only entrance into another enclosed garden. Awed and silenced, I drew near the gates, when once again the voice whispered, "You cannot enter here. You must first be freed from all the stains of earth."

Oh, the indescribable radiance of this garden. Nothing here but white roses! An infinitude of blossoms melted into a rare harmony of sound; the air was so tremulous with light that it shone before human eyes like dewdrops spun of silver threads. That which would have been but silence to human ears quivered with melody, and each white and perfect blossom breathed its benediction in wordless music.

As a figure of light, the white Spirit of the Garden, bearing one of the perfect flowers, approached the gates near which she paused and spoke thus: "This white rose is immortal: it is the ideal of soul attainment. Each spirit must build its own individual gates of light, and in the shining of that light discover within itself the glory of its own White Rose Garden, the inner place of peace. Pray - meditate - understand - achieve."

Reluctantly I was dragged back into earth-ways again. Opening wide my window to greet the morning sun, a red rose, a pink rose, and a white rose nodded to me from the garden below, while a little bird sang in a tree nearby.

The Peace Flower: Legend of the Jasmine

Angels hold converse with each other and with mortals by means of color. An assemblage of angels when engaged in healing prayers for the bestowal of blessings upon humanity appear as a glory of variegated clouds that fleck the sky in the hours of dawn or at sunset time.

On particular days which have been set aside as national holidays in commemoration of those who have laid down their lives upon the battlefields of their country, the angels who work most intimately with man are particularly active in broadcasting thoughts and prayers for peace throughout the world. Within each receptive heart they instill this ideal, and in every receptive mind they impress its noble impulse and power. The angels are assisted in this work by those on earth who have unselfishly laid their lives upon the altar of sacrifice for their country's good.

White is the light that suffuses a land when observing nationally the sacred memory of its war-time dead. Above the tall marble shafts that rise so proudly toward the blue, and beneath which sleep the honored dead, the angels hover in mighty companies of peace. Their chorals are of the time when war shall be no more. They sing of the coming day of brotherhood when the hearts of all mankind shall be indissolubly united in bonds of fellowship and love. As they sing of this nobler, peaceful world to be, its likeness is impressed upon the ethers in ideal patterns which sweep across the skies where all whose inner sight is active may see and know what is to be. In that celestial picture of promise may be seen the joyousness of the people, the radiance of their countenances and the love and trust which they all hold toward one another. Their beautiful domiciles are emblazoned in works of art and overhung with clusters of fruits and flowers.

Slender spires gleaming like silhouettes of ancient tapestries are fashioned amid the stars. It is a realm of eternal loveliness, a land which can never be despoiled by shrapnel nor bomb. Its gates are always open wide for whomsoever wills to enter in and taste of that wondrous peace which passeth all understanding.

It was such a picture as this that the prophet Isaiah looked upon when he wrote: "They shall beat their swords into ploughshares, and their spears into pruning hooks; nation shall not lift up sword against nation, neither shall they learn war any more. - They shall not hurt nor destroy in all my holy mountain; for the earth shall be full of the knowledge of God, as the waters cover the sea."

The angels, too, seem transported in joy with the divine beauty of this ideal which they fashion above the earth and which by the power and rhythm of their celestial songs they seem to build into the very souls of men. So powerful are their radiations and so intense the rhythms, that all the earth is beginning to sense the meaning of a world-wide peace.

Winging through the vast ethereal expanses, hosts of angels gather some of the fairest, whitest and most fragrant blossoms which adorn their etheric Land of Eternal Peace. These flowers they bring to the dust-haunted aisles of earth. They are of ethereal whiteness and celestial sweetness, for of all flowers the Jasmine is most fragrant.

The snowy whiteness of the Jasmine-flower reflects the divine peace; its fragrance, the prayers of angels. From the heart of this blossom, streamers of good-will ray out to all the world; from its petals are broadcast the powers of peace.

During the silent hours of the night when stars alone watch over the white sepulchral cities built to the memory of those who have died for the betterment of man, angels often pause to sing of the coming day when these silent acres shall be no more. It is then that the fragrance of the Jasmine, the peace flower, broods in a white, healing magic above the heart of the sleeping world.

6

CONSONANCES AND DISSONANCES IN NATURE**by VLADIMIR FESENKO****Editor's Foreword**

Vladimir Fesenko is a contemporary Russian composer who is keenly interested in the relationship between sound and color. He notes that it is possible to establish a one-to-one correspondence between sounds and colors (although this correspondence is ambiguous). Once the match is established, any piece of music can be depicted in color. Conversely, any colored object, such as a flower, can be set to music.

Below is a short section on the harmony of colors from Fesenko's Russian book *Consonances and Dissonances in Nature* (Moscow: Edithus, 2019) translated from the Russian by the Editor. The entire book is freely available on the Internet at Fesenko's website:

http://vlfesenko.ru/kons_and_diss_v_prirode.pdf.

Section "Harmony of colors", p. 36-37

It is no coincidence that people admire the beauty of flowers. Not understanding the reasons, they just feel their perfection. Here it is not only about the subtlest colors that form perfect intervals and chords, but also about the spatial form of leaves, stems, sepals, petals, stamens, and pistils. At the same time, not in the last count people are attracted by the scent of a flower, often filled with amazing harmony. Why the subtlest smells of flowers have such a beneficial effect on people and are in such a demand? Most likely this happens because they are consonant and establish harmony within a person. And this is another unexplored area of Nature.

Each type of flower has its own formula. Usually it indicates the number of leaves in the sepal (S), the number of petals (P) and stamens (T), as well as the presence or absence of a pistil (L). Lily's formula is P6 T6 L1 (see example No. 11). There is no indication of sepal here. According to the formula, a lily has six petals, six stamens, and one pistil. The ratio between petals and

stamens is equal to a pure unison (P1), while the pistil relates to them as 1/6, which corresponds to a perfect fifth (P5) two octaves apart. [Editor's note: For more on musical intervals, refer to [https://en.wikipedia.org/wiki/Interval_\(music\)](https://en.wikipedia.org/wiki/Interval_(music)).]

The formula of a tulip flower (example No. 12) looks like S0 P3 3T3 3L1. Sepals are also absent here, and the ratio of petals to stamens and pistil is the same as that of lily.

The formula of the bellflower is S5 P5 T5 L1 (example No. 13). There are five sepal leaves, five petals, five stamens, and one pistil. Leaves, petals, and stamens are related to each other as the pure unison, while the pistil forms with them a major third two octaves apart.

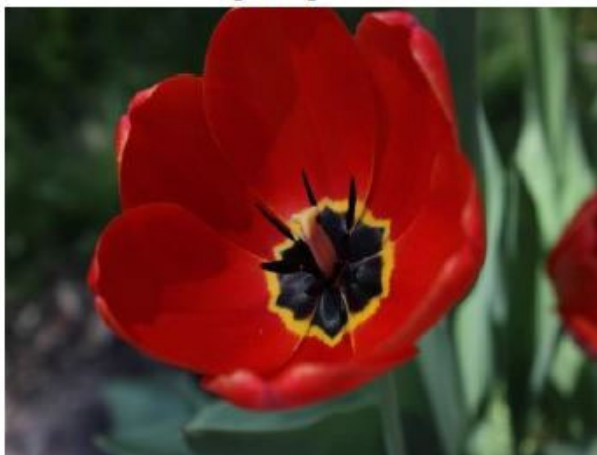
The formula of the ordinary potato flower (S5 P5 T5 L1) is the same as that of the bellflower, whereas the formula of the tomato flower is slightly different - S5 P5 T5 L2. But in the latter case, almost the same consonant combination takes place. The difference is that the pistil is represented by the number two, and five relates to the two as a major third one octave apart. In music, such an interval is called the compound major third.

Of course, in terms of consonances and dissonances, such a brief analysis of some formulas of plant flowers is only a small part of what can be done in this area. After all, one can analyze in the same way other parts of plants, while learning a lot of new things in the process. But even such a brief acquaintance with the formulas of various flowers suggests that **beauty is always based on consonance**.

Пример №11



Пример №12



Пример №13



Пример №14



Пример №15



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AGNES ARBER'S MORPHOLOGY OF PLANTS AND FLOWERS

Editor's Foreword

Agnes Arber (1879-1960) was an English expert in plant morphology and other issues of biology. Of greatest interest from the point of view of plant and flower morphology are the following book and article by Arber:

A. Arber. *The Natural Philosophy of Plant Form*. Cambridge: Cambridge University Press, 1950.

A. Arber. The interpretation of the flower: a study of some aspects of morphological thought. *Biological Reviews*, 12: 2, 157-184 (1937).

The idea of including excerpts from Arber's works in this anthology had to be abandoned, since her works are written in dry scientific language. Instead, a translation of the following electronic article is offered:

Debakcsy, Dale. *Bringing Teleology Back: Agnes Arber's Neo-Aristotelian Plant Morphology*. October 17, 2018. <https://womenyoushouldknow.net/bringing-teleology-back-agnes-arbers-neo-aristotelian-plant-morphology/>

Bringing Teleology Back by Dale Debakcsy

Evolution is great. As an explanatory idea, as a process governing biology, from just about any aspect you care to consider it, evolution is a magnificent thing. So magnificent, however, that it's hard not to use it when explaining every possible aspect of the biological world, and for a few scientists over the last century and a half, that's been a real problem. Unfortunately, one of the most cogent and penetrating alternatives to pure biochemical Darwinism ever put to paper was created by a botanist, Agnes Arber (1879-1960), a fact which all but guaranteed that the world would never see it.

Botany is science's mutant child. It studies strange, alien objects that live, but not as we know it, consume, but not as we know it, and grow and die, but not as we know it. Plants are damnably strange, too clearly purposeful to be considered purely mechanistic but too weird to be comfortably aligned with classical notions of life as we animals have arrogantly defined it. To biologists, they're a mystery, and to mathematicians and physicists, they are cause for a deep-seated panic best ignored. And, indeed, ignored is pretty much the optimal word in terms of botany's place in the world. Don't believe it? Name two famous botanists.

No, you don't get to use Agnes Arber.

In spite of studying the life forms that make all animal existence possible, botanists still get no cred whatsoever on the rough streets of popular scientific recognition. And that's a tragedy, because their insights are often of the type that you cannot acquire from your average mathematician and chemist. Their area of study forces them to see things a little differently, and Arber was that viewpoint's most eloquent spokesperson.

She was born into a family of genius. Her grandfather was a botanist, her father an artist, her brother a Greek scholar, and her mother's side of the family boasted African explorers and members of the Royal Society. Growing up amidst such a fusion of science, art, and culture, it was inevitable that, whatever profession she chose, she'd bring to it a uniquely diverse perspective. As it happened, between her mother's enthusiasm for plants and her father's lessons in drawing from life, botany seemed the natural choice, and her first botanical study was published when she was just fifteen years old.

She was, from the first, a devotee of the work of Johann Wolfgang von Goethe, the man we know as the author of *Faust* and *The Sorrows of Young Werther*-, but who always thought of himself as more scientist than author. His approach to botany, as contained in his *Versuch die Metamorphose der Pflanzen zu erklaeren* (1790) was one bound to appeal to an artistic and philosophically minded young scientist. Unencumbered by the minutiae of professional botanists, Goethe waded into the field with the audacity of a true amateur possessed of a piercing mind. He sought uniformities within the plant world, general forms that worked themselves out in nature's variety. While most 18th century botanists categorized tiny differences, Goethe sought unifying statements of repeated structural motifs, and found them. He thought the dizzying variations of nature could be related to an underlying theme, and so undertook to categorize all growths – petals and flowers and leaves – as manifestations of the same basic event, an idea which Arber would spend her life investigating.

While Arber read Goethe, Darwinism was making itself known throughout Europe as an explicatory force of unimagined power. Discovering phylogenetic lines was suddenly the hot ticket. Botany had become a sub-case of Darwinism, where plant structure was just something you studied in order to establish lines of evolutionary descent, rather than a worthy end in and of itself.

It was a powerful approach, especially when allied with newly developing chemical and cytological methods, but Arber felt that something was being lost, something of the great Aristotelian tradition that had steadily steered botanical studies for two millennia. In 1902, she worked as an assistant in Ethel Sargent's famous laboratory, studying the seedlings of grasses while also pursuing work in palaeobotany. In 1909, she married one of Britain's ablest palaeobotanists, a marriage based on mutual scientific respect cut sadly short by her husband's death in 1918.

She never remarried.

She worked, producing over seventy scientific papers by 1946, and a series of books that remain botanical standards still. In 1912, she published *Herbals, Their Origin and Evolution*, an exhaustive account of two centuries of early modern herbal knowledge that displayed both her scientific rigor and historical acumen. In her research, she concentrated on the morphology (structure) of monocotyledons, and in particular on the Gramineae, to which most grasses belong, including food staple grasses like wheat, rice, barley, and maize. Her approach was informed by her historical and philosophical background. Taking her cue from Aristotle, Theophrastus, and Goethe, she looked at morphology from an almost teleological perspective.

How does a plant become what it is? How is it that, when flowering and fruit production begins, the rest of the plant knows to stop growing new foliage? What are the commonalities between shoot and flower production? What is there in the development of the leaf that is also in the growth of a flower petal? Arber could not have been less interested in establishing chains of evolutionary relation. She sought instead to bring the continental tradition of morphology-for-morphology's-sake to an England wrapped in Darwin mania. That approach extended to observation of an individual plant's development. Rather than arbitrarily dividing that growth into Stages which exist only as handy mental categorizations, she argued to treat development as a continuous process organized by an overall (we would now say genetic) plan. She saw plants as analogue rather than digital, and wanted botany to describe them as they were, rather than as our human brains like to categorize them. Her works sought a way forward by maintaining a link to a past deemed discredited, and her work cleared up so many difficulties in the classification of monocots that, in 1946, she became just the third woman ever elected to the Royal Society.

Her lifetime of work looking at plants from a morphological and teleological perspective culminated in her 1950 classic, *The Natural Philosophy of Plant Form*. It is a magisterial survey of two thousand years of biological tradition, starting from Aristotle and terminating with her own research and philosophical perspective, with time along the way to revisit her heroes, Joachim Jung and Goethe. In text sprinkled with Greek, Latin, German, and French, she shows the full measure of her awareness of the European philosophical and scientific traditions, detailing the rich culture that we stand to lose if we become too wrapped up in a single way of doing science. Rather than making morphology fit evolutionary theory, she lets structure speak for itself, and draws conclusions about repurposed processes in plant development that sound very familiar to modern epigenetic ears. By studying palaeobotany and abnormal structures, she had a hyper-developed sense of biological continuity and variation which allowed her to

elucidate monocot comparative anatomy in a way imaginatively unavailable to more strict Darwinists.

The final chapter of that book is a call for a more imaginative botany, one that looks more than it analyzes, and draws more than it counts. She doesn't discard the obvious achievements of physico-chemical approaches to biological studies, but neither does she see those successes as justifying the eradication of all other less analytical approaches to describing something as clearly strange as plant life. It was an eloquent plea from one of botany's outstanding voices, and it was utterly trammelled by the massive success of the emerging genetic approach to biological analysis.

Agnes Arber died in a rest home in 1960.

FURTHER READING: Agnes Arber is a ghost. Botanists are not often written about, and female botanists even less so. Her works are still available, but biographical data is scarce, the only source really being an eleven page obituary published in the *Biographical Memoirs of the Royal Society*, vol. 6. Beyond that, she exists as a detached if brilliant authorial voice. If you want a flavor of that, pick up the Cambridge Library Collection edition of *The Natural Philosophy of Plant Form*. Its last chapter is a classic, and the rest of the book is filled with a masterful account of the sweeping and largely forgotten history of botany, though the particulars of plant form that she delves into more frequently as the book goes on are probably too dense with specialized vocabulary for any but the dedicated student of botany.

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THE HARMONY OF PLANTS**by HANS KAYSER****Editor's Foreword**

Hans Kaiser (1891-1964) was a German musicologist. Starting from music, Kaiser came to the idea that the principles of musical harmony form the basis of astronomy, architecture, botany, and other sciences. More information about the Kaiser can be found here:

<https://hanskayser.com/>

<http://www.sacredscience.com/archive/Kayser.htm>

Kaiser's major work on plant harmony is *Harmonia Plantarum* (1943), recently translated into the English:

Kayser, Hans. *The Harmony of Plants*. Idyllwild, CA: Sacred Science Institute, 2008.

This translation and other books by Kayser are available for purchase from sacredscience.com.

Kaiser's book is hard to read, therefore, below are just some brief explanations. For more, refer to the websites mentioned earlier.

The Harmony of Plants

Kayser's doctrine of plant harmony rests on two observations:

- The shape and relative position of plants and their parts often reveals symmetry that limits the theoretically possible options. For example, if a symmetrical flower can be inscribed in a circle, the possible number of petals can be equal to 2, 3 (regular triangle), 5 (regular pentagon), or their doublings. For example, 4 (square) is possible because 4 is 2 doubled.
- On the other hand, theorists and composers of the Renaissance used most natural sounding intervals (the ratio of two musical sounds by their height), the frequencies of which were related as small integers, up to 6, for example 1:1 (unison), 2:1 (octave), etc.

This allows one to establish a correspondence between the elements of symmetry of plants and musical intervals and, as a result, either "translate" the plant to the language of music, or, conversely, recreate the morphology of the plant based on a musical notation. In this case, doubling is considered in the spirit of the theory of harmony as a transition to the next octave.

Below are two diagrams from Kayser's *Harmony of Plants* which illustrate the above correspondence.

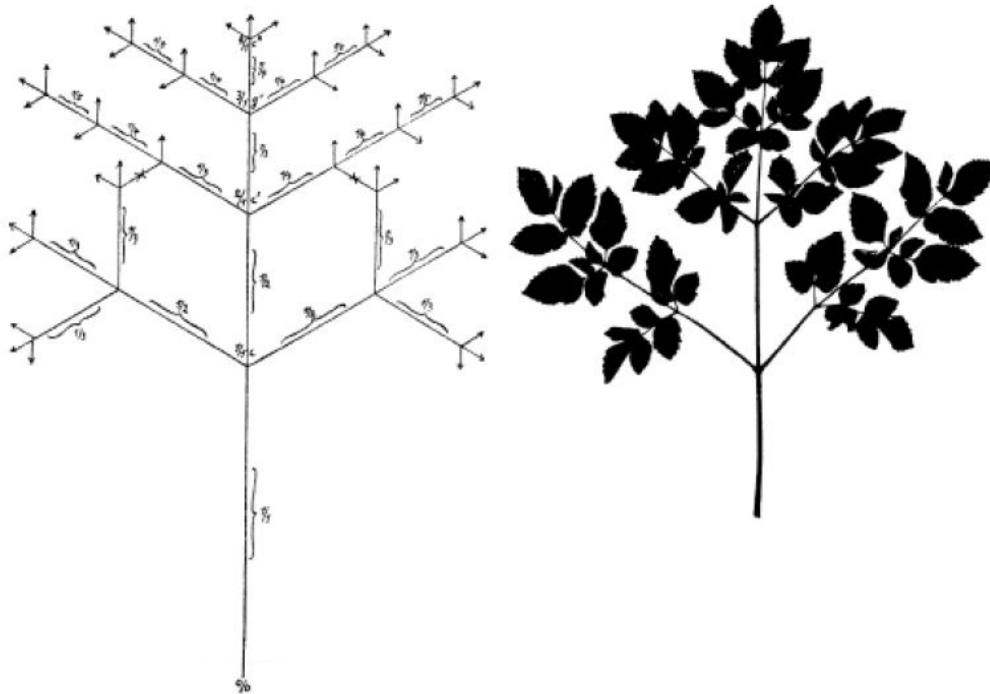


Figure 2

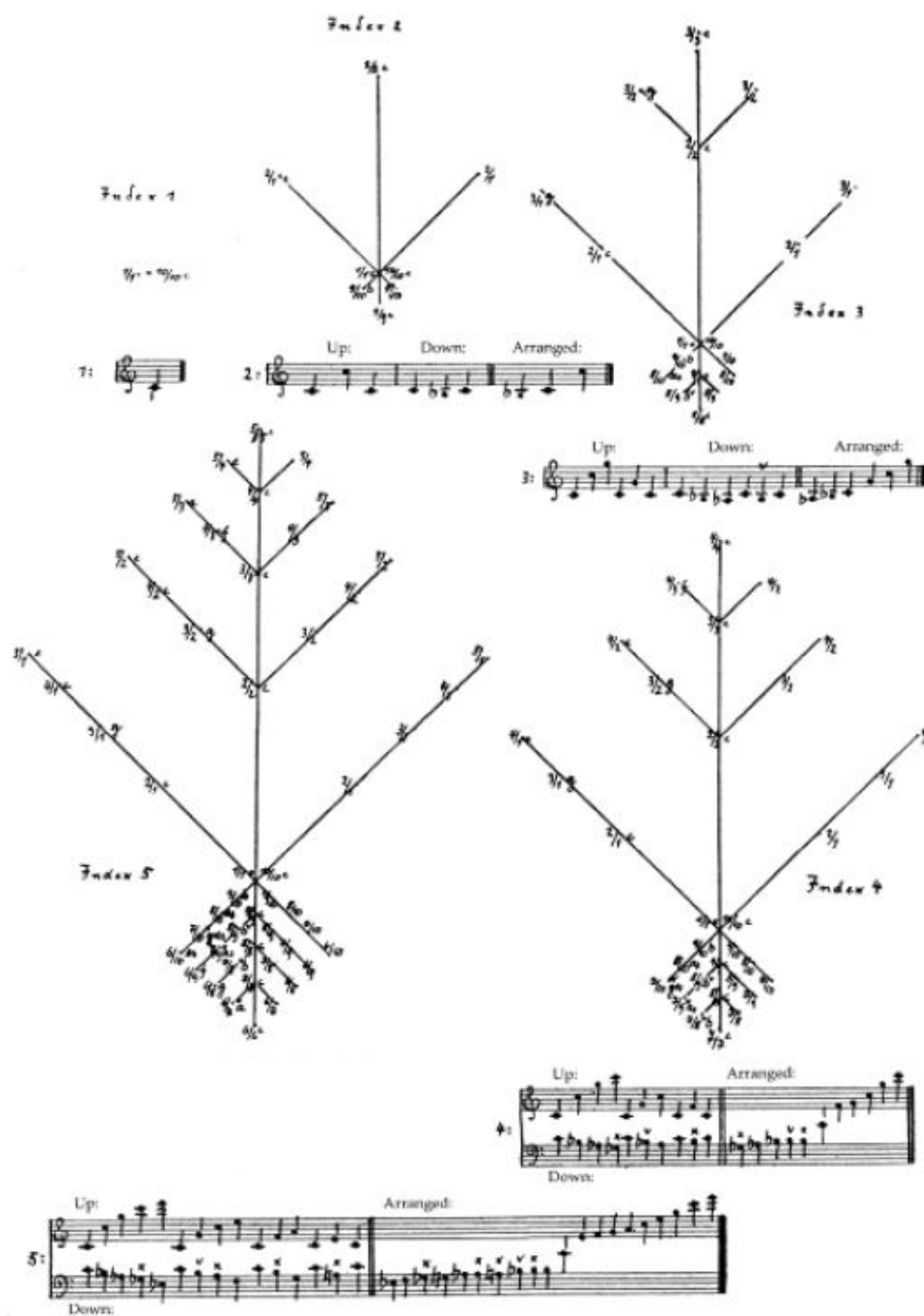


Figure 17

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THE HIDDEN GEOMETRY OF FLOWERS**by KEITH CRITCHLOW****Editor's Foreword**

Keith Critchlow (1933–2020) was an English artist and architect, author of numerous books on art and related fields. More information on Critchlow can be found in Wikipedia:

https://en.wikipedia.org/wiki/Keith_Critchlow

Critchlow wrote a large (over 400 pages) and detailed book on the hidden geometry of flowers:

Critchlow, Keith. *The hidden geometry of flowers: living rhythms, form and number*.
Edinburgh: Floris Books, 2011.

It presents a comprehensive discussion of geometric flower design based on the principles of symmetry. This allowed Critchlow to put on a solid footing the problem of the archetype of flower geometry.

This anthology includes a few excerpts from the third part of *Geometry of Flowers*. The printed book is available for purchase from amazon.com.

Keith Critchlow's The Hidden Geometry of Flowers

We cannot be certain what gives us the appetite for order, but we can be certain that it was there from the beginning — whatever cosmogony we ascribe to. We all appreciate an ordered life with not too many surprises. Life is not possible without order. Life has to be ordered so as to be spontaneous.

Symmetry must rank highly as one of the chief mysteries in this impulse for order. The symmetrical arrangement of elements within the same system tends towards balance, which is symmetry. The human body has a high degree of natural symmetry which is expressed largely in a twofold way — in common with most of the animal kingdom. We know our internal organs differ yet they are distributed to maintain balance and an interior harmony. Flowers express a plethora of beautiful symmetries ranging from the twofold to the manifold. The most predominant symmetry, particularly in wild flowers, is fivefold. It is intrinsic to this pentagonal symmetry that the 'golden' proportion of 1:1.618 etc. is present as we have consistently noted. Fruit blossoms are most often fivefold, a symmetry that is powerfully visible when we cut an apple across its meridian — passing through the five enclosures for the 'pips' or seeds.

Whatever else we might conclude about symmetry it is valuable to acknowledge Plato's first principle of the triad of Sameness, Otherness and Being. In terms of flowers this means that no two petals, let alone leaves, are ever exactly the same in a single bloom yet they are usually clearly identifiable as an Oak, Ash or Willow. In short all scrutiny of the natural world will entail Sameness and Otherness. These two qualities will always seem antagonistic or contrary and therefore will never be resolved until our acknowledgement of Being is recognized. Being reminds us of the extraordinary balance of nature and balance of the universe itself. Through cognizing Being we learn to see Sameness and Otherness simultaneously. In short we can experience a host of Tulips though common experience reveals that each will be slightly different: each is unique yet unquestionably a Tulip. Paradox alone can achieve unity.

Here we are taking a further Timaeian ethos of working within the boundaries of likelihood or seeking the most likely underlying order. As we live in the world of necessary change, we cannot expect to have available to our unreliable senses 'absolutes' or 'perfect' examples in nature to study. The best we can hope for is to find the 'most likely' indications of the originating perfections, as Timaeus insists at the beginning of his Cosmogony myth. These we consider valid to call evidence of 'archetypes' or the determining principles. The existent flowers echo or reflect the archetype or originating paradigms. These are enshrined physically in what we can call their genetic memory bank and their reactions to their immediate environment — sunlight, for example. When seeking a solution to the curves of any particular flower petal we can only

choose the most likely or closest curve. This requires a huge effort to exclude any pre-formed theories, shapes, characteristics and so on. So we rely, as objectively as we can, on the 'nearest solution' to each petal curve. This is the 'gentle empiricism' of Goethe determined by an internal integrity. We must not 'fool' anyone least of all ourselves in seeking the underlying principles of geometries. To make the utmost effort to find the nearest to the truth was Timaeus's advice. Solutions can only be 'offerings' not proofs. Proofs are after all only based on a faith in an accepted 'rule' or conventional principle.

Two-petalled flowers are rare but can be found. From here we move to the much more frequent three-petalled flowers such as the Snow Drop, the Tulip, the Iris and the Lily. So many apparently sixfold flowers are really a double three in their petal structure under closer scrutiny.

The threeness of a leaf or flower immediately indicates a sixness in the handedness of the leaf or the arrays of the petals. However, the distribution of threeness in the Lily and Iris is beautifully evident.

Next there are some very beautiful fourfold flowers or flowers with balanced spreads of four petals, not least the Clematis, the Balloon Flower and the beautifully fragrant Wall Flower. The Clematis is a good example, but this flower also unfolds beautifully in a double four (or eight-petalled) form.

Next we come to the most frequently occurring symmetry in natural wildflowers: the fivefold or pentagonal symmetry. The list is impressive and includes the original Dog Rose (that Rose form which most other Roses seem to have been bred from), the Buttercup, the Herb Robert, the Periwinkle, Borage and so on. These all display fivefold symmetry so beautifully yet so individually and at quite different scales. What becomes apparent once we get to the fivefold symmetry is that the 'Golden Progression' is underlying the sequence. This organic progression is known as the Fibonacci sequence — after the Italian mathematician who it is believed was tutored in his early days by Muslims in North Africa where his father was an Italian provincial governor. As we have previously noted, this sequence may be called 'golden' as it progressively comes closer to the 'golden ratio' of $1:1.6180339 \dots$. This ratio is arithmetically inexpressible in whole numbers, like Pi (from the circle), yet can be accurately expressed geometrically — particularly in the pentagon with its diagonals making up a pentacle. This remains a wonderful mystery to the human mind.

Sixness is found in the Daffodil whose petals fuse into its hexagonal shaft.

Next we come to the most rare of flower symmetries, the ‘virgin’ seven. This does occur in such as the Primula flower yet is never completely balanced in its symmetry. It also occurs occasionally in the tulip — once again revealing an imbalance, yet exquisitely beautiful. Next we have eightfold symmetry which is most beautifully represented by the Cosmos flower in a range and variety of colours. The sacred Lotus is in this symmetry and the Clematis is another fine example. Ninefold symmetry does occur although rarely: we find it in certain Cactus plants and in others that are exceptions rather than the rule.

Again, nine is a notoriously mysterious symmetry. From the geometer’s viewpoint this is because it cannot be constructed exactly with a compass and straight edge. Good approximations can however be achieved.

Tenfold symmetry is also found occasionally, most particularly in the Passion Flower. Yet even here it seems to be composed of two fives. This same flower will also occasionally exhibit an eightfold symmetry. Ten, we recall, has the golden ratio inherent in its geometric form.

Elevenfold symmetry is very rare but does occasionally occur in flowers of the Daisy family (Compositae / Asteraceae).

Twelvefold symmetry also occurs in the Daisy family of flowers but is not common.

Thirteenfold symmetry is more common in the multi-petalled flowers like the Daisy family. But as this is one of the numbers of the golden sequence it is not at all surprising.

Twenty-one, the next in the golden sequence is found again in the Daisy family and confirms the underlying golden order: 5, 8, 13, 21. However there are many exceptions in flowers with multiple petals as there are a bewildering number of symmetries in the ‘heads’ or seed pods of poppy flowers.